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1 Executive Summary

This study was funded by a Caltrans Environmental Justice Grant and awarded to the Tulare County Redevelopment Agency (TCRA). The Study has two primary aspects:

- Develop a community supported plan that identifies key improvements needed to serve this significantly underserved neighborhood that would promote mobility, access and safety for motorists, pedestrians and bicyclist as well as promote economic opportunities, equity, environmental protection and affordable housing opportunities for low-income minority and Native American communities; and
- Develop a plan to finance the initial construction of the improvements and the ongoing maintenance of those improvements.

The study involved significant community outreach within the study area bordered by Washington, Church, Spruce and Lane in southeastern Earlimart, see Exhibit 1. Prior to the initiation of the actual work to develop the plan of improvements and the plan to improve and maintain the improvements, efforts were undertaken by Community Services and Employment Training (CSET) to engage the community and stakeholders in a dialog to determine the needs in the community. CSET then conducted two project kick-off meetings, one with the Earlimart Town Council and another “stand-alone” community meeting. This was followed by a door-to-door community survey conducted by CSET that reaffirmed what the community wanted to see built and was willing to support financially. The next step was for the Consultant to engage the community in a process to develop a community supported plan of improvements for the neighborhood over a series of three meetings.

The plan development process conducted by the Consultant initially involved research of the existing conditions, plans, reports and documents. The next steps involved conducting a series of three meetings that covered the following:

- Discussion of conceptual design alternatives (February 3, 2011)
- Presentation of conceptual plans (February 24, 2011); and
- Presentation of the preferred plan including costs to construct and maintain the improvements (May 19, 2011).

The preferred alternative provides for curb, gutter, and sidewalks on all streets in the study area, drainage improvements, street lighting, lighted crosswalk systems at key school crossings, median improvements on Church and Washington and landscaping improvements in the aforementioned medians and at intersection

bulb-outs interior to the study area. A companion project seeking Proposition 84 funding is a community park on the grounds of the Earlimart Elementary School which would also provide drainage relief for the area.

The cost of the recommended improvements was found to be about \$9.6 million. Without supplemental funding, this would result in an annual assessment cost to the property owners of about \$2,160 per year for 20 years for an average 7,500 square foot lot. In order for this to be affordable to the property owner's in the study area supplemental funding must be secured. An aspect of the study involved a review of federal, state and local resources for funds to offset a portion of the project costs to reduce the burden of the project on the property owners. The recommended approach is to use a combination of Community Development Block Grant funds, US Department of Agriculture or State of California I-Bank loan proceeds, Caltrans funding (HES, TE, CMAQ, and transit grants) and local funds (Measure R – Bike/Transit fund and the County's Roads and Street Allocation as well as TCRA tax increment) to reduce the burden of the project costs to the property owners in the neighborhood.

The study also called for a plan to maintain the improvements once built. In particular it would be necessary to accommodate regular street sweeping, storm drain system maintenance, landscaping maintenance, trash patrol, graffiti patrol, street lighting costs, and lighted pedestrian crossing system maintenance. Additionally, there would be a need to plan for regular street surface treatment and lifecycle pavement restoration costs. The typical way of dealing with these activities is to establish a maintenance assessment district that would distribute these costs to the property owners on their annual property tax bill. Based on the level of maintenance needed the annual cost of this maintenance to the property owners is estimated at \$345 for a typical 7500 square foot lot.

Finally, it needs to be noted that some of the conclusions stated in this report reflect the 4Creeks' professional interpretation of the desires expressed by the Earlimart community for the nature of the public improvements that would be built in the study area. In all cases these recommendations may not reflect current Tulare County practices and the personal preferences expressed by Tulare County staff to the consultant for some of the recommended improvements.

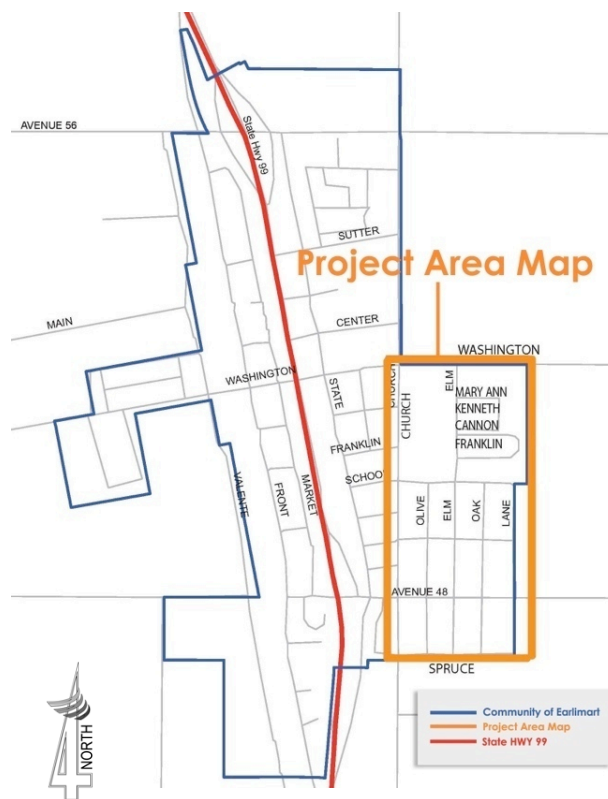
At the conclusion of the study the findings of the plan will be reported to the Tulare County Board of Supervisors for their review, approval, and acceptance.

While this study is specific to the project study area, the approach is one that can be used anywhere in the Earlimart community where improvements are needed.

The 4Creeks Team is pleased to have this opportunity to serve Tulare County in the preparation of this plan and study. Thank you for the opportunity and for the cooperation of your Redevelopment Agency staff members.

4Creeks, Inc., Visalia, CA

Exhibit 1



2 Study Overview

a. Study Summary and Purpose

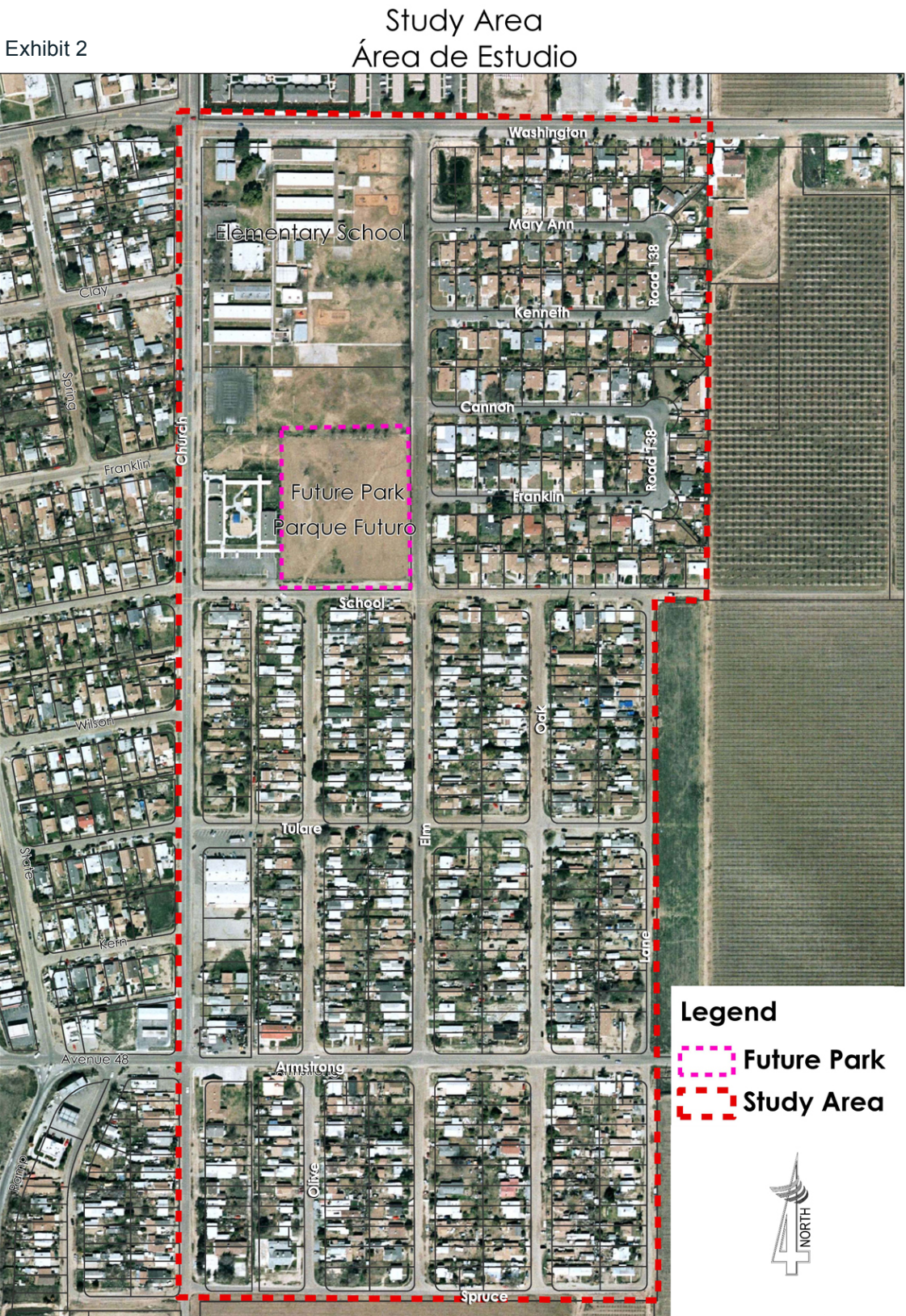
Funding for the Earlimart Safety and Community Study is from a 2009/2010 Caltrans Environmental Justice: Context-Sensitive Planning Grant. The study area generally encompasses the southeastern quadrant of Earlimart and is bordered by Washington Avenue on the north; Spruce Avenue on the south; Church Road on the west; and Lane Road on the east. (See Exhibit 2).

The purpose of the study is two-fold:

- To develop a community supported plan to improve the neighborhood in Earlimart bordered by Washington, Church, Spruce, and Lane that would identify ways to improve mobility, access and safety while promoting economic opportunities, equity, environmental protection and affordable housing opportunities for low-income, minority and Native American communities. The Grant was awarded to Tulare County Redevelopment Agency who has worked closely with Caltrans in carrying out this study; and
- To develop a plan to finance the construction of and ongoing maintenance of the improvements ultimately built in this community.

A significant part of this effort involved an intense public outreach program carried out by Tulare County Redevelopment Agency (TCRA) and Community Services and Employment Training, Inc. (CSET), a local non-profit community-based organization. Through their efforts stakeholders from the Earlimart community were actively engaged in the study process from its inception to its completion.

The first part of the actual study was carried out as a result of a request by TCRA for proposals to solicit an Urban Design Consultant. The Urban Design Consultant was tasked with participating in and facilitating the public outreach process gathering data, researching information and then developing up to three plan alternatives that considered safety and connectivity of bicycle and pedestrian circulation relative to neighborhood schools and residences since at present there are no community parks in this specific area in southeast Earlimart, including opportunities for developing streetscape treatments in and around this neighborhood. 4Creeks, Inc. of Visalia was selected to lead this effort; they were supported by the Lockwood Agency, landscape architect Warren McClung, and Urban Tree Foundation in carrying out this planning effort.



Project Team:



Earlimart
safety and community study

The second part of the study was a separate request for proposals to solicit an Assessment Engineer. The Assessment Engineer was tasked with developing a plan that would equitably spread the cost of the selected improvements over the properties benefiting from the improvements and developing a plan to equitably spread the cost of maintaining the selected improvements over the benefited properties in perpetuity. 4Creeks, Inc. was also selected to carry out this effort.

As illustrated in the flow chart (Exhibit 3) this study is the next step in a larger process for planning and implementing public improvements. As indicated in the flow chart, the first step, Obtain Planning Grant, is complete and with adoption of the recommendation of this study, the second step will be complete.

This process was reviewed at each public meeting to help establish realistic expectations with regard to the time it may take to see improvements made. In presenting this process, emphasis was given to the critical step of obtaining funding as that is typically the most challenging step in the process.

b. Study Objectives

The grant application which resulted in funding for this study identified very specific commitments for performance to address important concerns as identified by the community. These commitments and concerns are outlined below.

i. Grant Application Commitments

- 1). Improve Pedestrian and Bicycle Safety
- 2). Improve Traffic Safety
- 3). Define Potential:
 - Pedestrian Enhancements
 - Transportation Enhancements
 - Community Enhancements

ii. Grant Application Identified the Following Concerns:

- 1). Lack of Sidewalks and Bicycle Facilities
- 2). Lack of Pedestrian Signage
- 3). Lack of Crosswalks
- 4). Deteriorating Streets
- 5). Dirt Shoulders

6). Poor Drainage

7). Flooding Issues

c. General Approach and Process

As noted above, the approach to this study was to follow a process that incorporated ample opportunities for input from the community residents and stakeholders. Prior to the initiation of the actual study, there was an extensive series of community meetings facilitated by CSET, specifically with the Earlimart Town Council, the CSET “Partners” forum, the Earlimart Elementary School District, the Earlimart Public Utilities District, several community interest groups and several small neighborhood group meetings. At the beginning of the study, there were two project kick-off meetings, which were followed by a community survey and then three project focus/follow-up meetings.

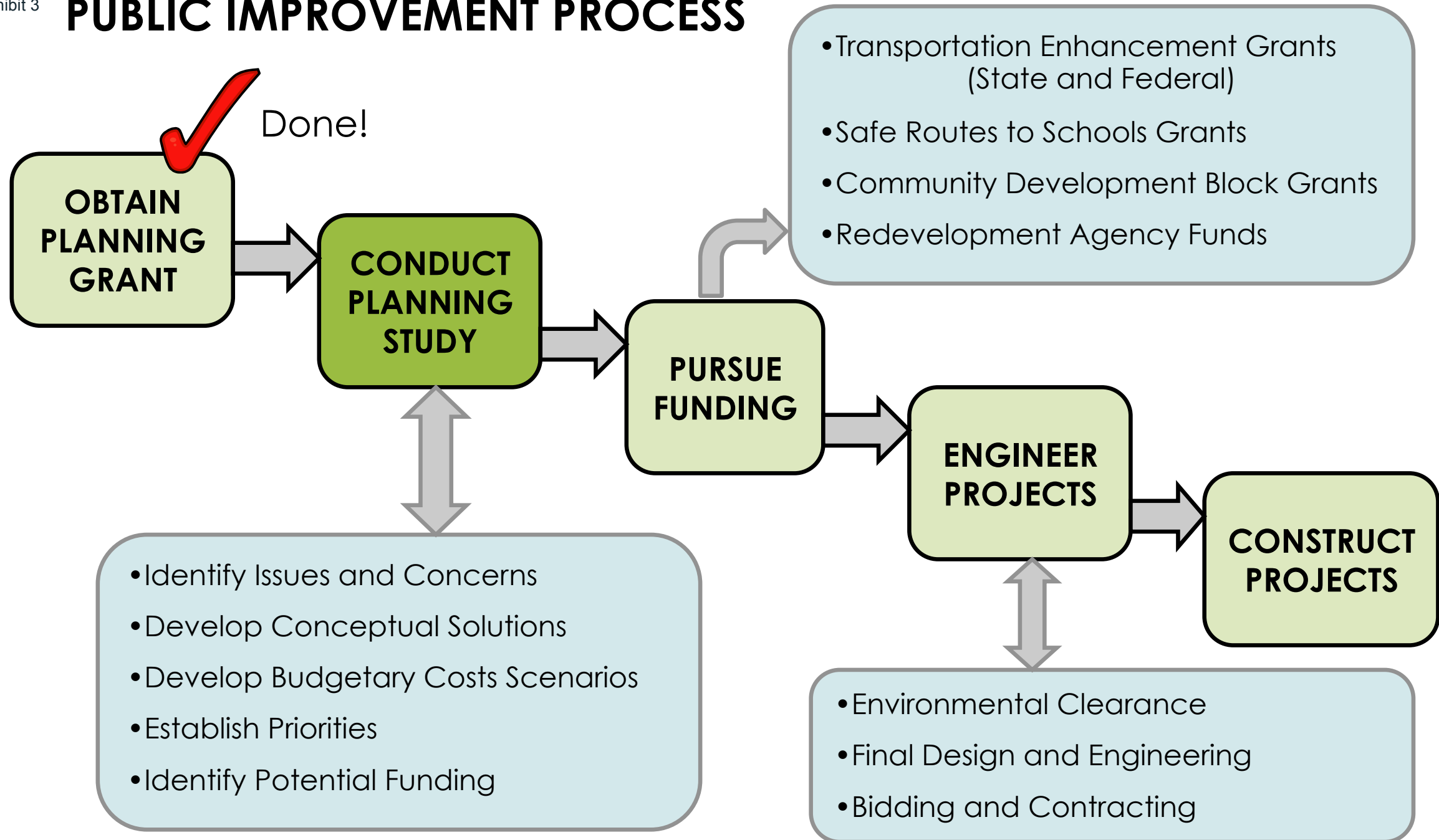
This intense public involvement has resulted in the formulation of a well-accepted plan of improvements for the study area.

At the conclusion of the study the Consultant is tasked with developing a final report and making a presentation of both parts of this study to the County Board of Supervisors for plan adoption.

The next section describes the community outreach program in more detail and the following section provides a summary of how the proposed improvement plan was developed.

Exhibit 3

PUBLIC IMPROVEMENT PROCESS



3 Outreach Program

Community outreach was initiated by TCRA and CSET. It initially considered the recently developed Earlimart Implementation Plan prepared by TCRA. The Caltrans grant involved an intensive series of stakeholder meetings and included a number of community-based groups; the Earlimart Public Utilities District, the Earlimart Community Council, the Earlimart Community Network Committee, the Earlimart Elementary School District, the Earlimart Youth Corps, southeast Earlimart neighborhood residents, and many others.

As the study was initiated, CSET, with the assistance of TCRA and the Consultant, hosted two community outreach meetings, three plan development meetings, and conducted a community survey to ensure that the study had an appropriate level of community involvement and input.

a. Initial Community Meetings – Project Start-up

The initial community meetings for this study fell into two categories, informal and formal. The informal meetings were intended to gauge public interest in the project and test some of the early assumptions TCRA staff and CSET personnel had regarding the community’s needs. The formal meetings were intended to lay a framework and set realistic expectations for what this study was intended to accomplish.

i. Informal Meetings

As indicated above there were a number of informal meetings with stakeholders in the Earlimart community before the study got into full swing. These took the form of casual discussions and presentations at a variety of community settings, most notably with the Community Network Committee, the Earlimart Partners Group, the Earlimart Youth Corps, the Earlimart School District, and a variety of other community meetings. These meetings were hosted by CSET with TCRA personnel attending to provide information about the Earlimart Safety and Community Study.

ii. Formal Meetings

As the study began, CSET, TCRA and 4Creeks, Inc. attended a variety of public meetings where presentations specific to the project were made. Specifically these included:

- 1). The Earlimart Public Utilities District on January 17, 2011, where the proposed study was discussed in some detail with the PUD Board of Directors in an effort to gain understanding

about the project and determine possible interest on the part of the District toward assuming long term maintenance responsibility for any improvements that may ultimately be constructed.

- 2). The Earlimart Partners Meeting on January 27, 2011, where the proposed study was discussed in some detail with the intent of determining the interest of additional stakeholders in participating in the study and getting any insights as to items the study might consider in its scope of work.
- 3). Community Outreach Meeting #1-Project Kick-off Meeting: On February 3 at the Earlimart Veteran’s Memorial Hall, the 4 Creeks consultant team made a presentation at a regular meeting of the Earlimart Community Council to officially launch the study and get any initial feedback from the community about issues the study should address. (See appendix C-1)
- 4). Community Outreach Meeting #2-Follow-up Kick-off Meeting: On February 24, also at the Earlimart Veteran’s Memorial Hall, 4Creeks made another presentation and conducted a workshop which was intended to get more detailed information from the community about issues of concern in the community and to discuss potential outcomes of the study with the community. During this meeting there was an opportunity to discuss a similar project in the community of Richgrove. The Richgrove project resulted in new streets, curb and gutter, drainage improvements, and street lighting improvements. It was clear from the feedback that the Earlimart residents were interested in seeing that a minimum of the same types of improvements be constructed in their community. (See Appendix C-2)

Additionally, this second kick-off meeting was used to discuss the opportunities and constraints within the project area and elicit input from the public about preferences and priorities. This entailed presentation of an opportunities and constraints map followed with small group design charrettes in which the participants had an opportunity to discuss and sketch out ideas for proposed improvements at specific areas of the project.

b. Community Survey

Following the follow-up kick off meeting, TCRA, CSET, and the Consultant, prepared, distributed, and conducted a door-to-door community survey. On Feburary 28, 2011 CSET released a community survey and stopped receiving surveys on March 24, 2011. A copy of the Community Survey and more detailed information can be found in Appendix D. The survey did the following:

- Identified the study area
- Asked if the respondent lived in the study area
- Asked for the respondents address
- Asked if the respondents owned or rented their home
- Asked the residents to identify whether specific needed improvements were “very important”, “important” or “not important”.
- Asked if the residents were willing to pay an annual tax to support construction and maintenance of improvements to the neighborhood.
- Asked demographic questions (ethnicity, gender, number and type of household members, annual income).
- Optionally, asked for their contact information if they were interested in receiving updates about the study.

i. Process

CSET distributed approximately 1,000 copies of the survey by mail and door to door in the study area and the surrounding neighborhood around the study area. 216 surveys were returned and collected and then CSET and the Lockwood Agency compiled the survey results. Based on the number of surveys received (216) from an area with an estimated population of 1,134 (3.5 people per household, 324 households), results are safe to be assumed, at a 95% confidence level, to have a confidence interval of +/-6. Therefore, the survey results are within adequate levels to be confident that the results are what the vast majority of the residents in the project area would like to see built as a result of this study.

ii. Results

The survey results clearly showed what residents felt were “very important” to the community:

Improvements	Respondents
Street improvements	216
Sidewalks	206
Street lights	201
Crosswalks	199
Curbs and gutters	198
Flood and drainage improvements	198
Community park	183
Bus stops	160
Gateways and signage	158
Bike lanes	140
Landscaping along street	140
Other (various other items)	35

Additionally 70% of those who lived in the study area indicated a willingness to pay for the improvements and their ongoing maintenance, although these costs were not known at the time the survey was conducted; 67% of those outside of the study area indicated a similar willingness to pay for improvements and maintenance. 17% of those in the study area said they were unwilling to pay for improvements and their ongoing maintenance; 19% of this outside the area so indicated. The remaining respondents did not respond to this question.

c. Plan Development Meetings

After the introductory meetings a series of Plan Development meetings were held to develop and review alternative conceptual designs. The topics and focus of each of these meetings is discussed in the following section.

i. Plan Development Meeting #1:

Design Review Workshop, Initial Concepts (May 19, 2011): This meeting was conducted as a combination presentation and workshop. The first portion of the meeting included a short presentation of the initial conceptual alternative Concepts A and B. In the second half of the meeting the participants were broken out into small groups to rotate between stations that reviewed each of the alternatives and provide feedback. 47 members of the public attended this meeting.

ii. Plan Development Meeting #2:

Design Review Workshop, Refined Concepts (June 23, 2011): This meeting was also a combination presentation and workshop with a brief

presentation of Concept C for each area and then small break out groups to review and comment. 44 members of the public attended this meeting.

iii. Plan Development Meeting #3:

Preferred Alternative Presentation (August 25, 2011): This meeting was primarily a presentation of the preferred alternative; however to facilitate participation and feedback, 3 small groups were formed with a member of the consultant team presenting the preferred alternative to each group and responding to questions and comments from the participants. 69 members of the public attended this meeting.

4 Plan Development

a. Analysis of Existing Conditions

Focusing on the southeast portion of Earlimart, the study area is bound by Washington Avenue (Avenue 52) on the north, Spruce Avenue on the south, Lane Road on the east, and Church Road on the west encompassing an area of approximately 100 acres. The northeast quadrant of the study area, north of School Avenue and east of Elm Road, was dubbed the “Northern Neighborhood”. With the exception of some commercial uses along Church Road, the area south of School Avenue consists primarily of older residential development, which for the purposes of this study was dubbed the “Southern Neighborhood”. Armstrong Avenue (Avenue 48), a major east-west collector, bisects the Southern Neighborhood essentially isolating the southernmost third of this neighborhood.

The general extent and condition of existing improvements is described below.

i. Existing Street Improvements

Given their significantly higher level of service, Washington Avenue, Church Road, and Armstrong Avenue are identified as collector streets to differentiate them from the local neighborhood streets for the purposes of discussion and concept development.

A large portion of the study area can be characterized as severely underdeveloped with regard to streets, sidewalks, bicycle facilities, and storm water management facilities. The external streets are paved, but have significant gaps in curb, gutter, and sidewalk facilities. The internal streets of the Northern Neighborhood are fully paved with full curb and gutter; however, only about half of the frontage has a sidewalk. Where these sidewalks do exist, they do not comply with the requirements of the Americans with Disabilities Act (ADA) as there are no curb ramps at intersections and there is no accommodation for crossing the existing driveways without exceeding the maximum allowed 2% cross slope. With the exception of unconfined paving in very poor condition, the Southern Neighborhood is essentially devoid of street improvements. Additionally, over time many residents have encroached into the street right-of-way with private improvements, such as fences and gates. Many of the gates open out toward the street creating impediments to vehicular, pedestrian, and bicycle traffic.

Exhibit 4, Opportunities and Constraints, illustrates the general extent of existing street improvements.

Examples of Existing Conditions



Southeast Corner of School & Olive



Southwest Corner of School & Olive



Crosswalk at School & Oak



Westbound Washington toward Church



Northbound on Church

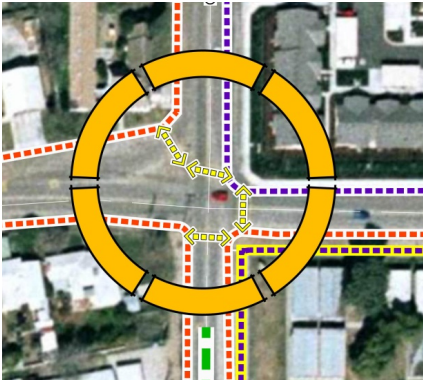


Westbound Armstrong & Elm

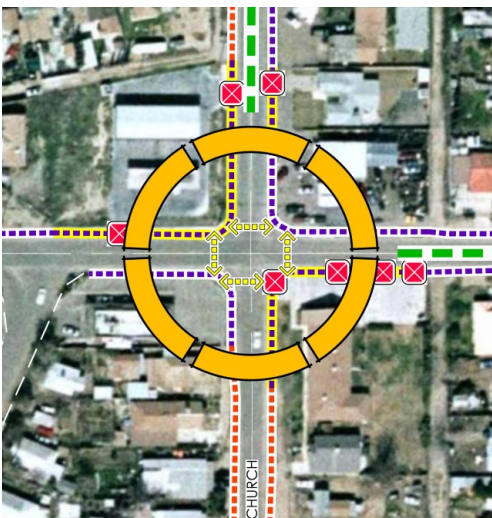
Exhibit 4



OPPORTUNITIES & CONSTRAINTS



North End of Study Area



South End of Study Area

ii. Existing Storm Water Management Facilities:

There are two distinct drainage tributary areas within the study area. The first tributary area is bordered by Washington Avenue, Elm Road, School Street, and the east edge of the study area. All of the streets drain into an adequately sized drainage retention basin that is currently maintained by the County. It occupies 4 lots of the original subdivision, for a total gross area of about 28,300 square feet or .65 acres. Drainage water is conveyed to this basin by way of the existing curb and gutter in this tributary area and storm drain inlets. This basin is to be considered a permanent facility until such time as the County has the resources to construct a basin sufficiently large enough to serve the entire community east of Freeway 99, planned to be located at the northeast corner of Avenue 56 and CA 99.

The remainder of the study area, generally south of School Street, is drained by way of infrequent cross-road corrugated metal culverts and poorly defined drainage swales. This tributary area generally drains to the west of the study area by way of cross-road culverts under Church Road at several locations. Ultimately this drainage water makes its way to State Street where the direction of flow is to the north. During wet weather conditions it is common to see standing water on the street and on the shoulder areas in this entire tributary area.

iii. Existing Street Lighting:

Functioning streetlights currently exist on Washington, Church, Armstrong, and School street within the study area. Streetlights were installed on Mary Ann, Kenneth, Cannon and Franklin in the northeast portion of the study area by the developer of the subdivision but they were never connected to power and energized. The existing working lighting appears to be 70-75 watt high-pressure sodium lights mounted on wood poles.

iv. Existing Utilities:

The study area is fully served with water and sewer services provided by the Earlimart Public Utilities District. Water and sewer mains are placed in the streets within the study area. Water service is metered at each residence. Wastewater is collected and conveyed to a treatment facility located west of the community. There is one domestic water supply well located in the study area on the south side of Tulare Avenue between Elm and Oak. At this time drinking water produced by the district complies with applicable state standards, and wastewater is being treated to appropriate state standards.

Power is provided to the study area by Southern California Edison. Natural gas is delivered by Southern California Gas also known as "The Gas Company". Telephone services are provided by AT&T and a variety of cellular service providers. There is no cable television service provider at this time but there are a number of satellite television providers serving the area.

Existing Drainage Facilities



b. Initial Conceptual Alternatives (Plan Development Meeting #1)

As noted previously, the conceptual design process began with the second community “Kick-off” meeting held February 24, 2011. At this meeting the 4 Creeks team presented their observations about opportunities and constraints (see Exhibit 4). The team also led the community in a series of small group design charettes allowing the participants to individually express their ideas and concerns. Based on the input received at this meeting and the community survey, the 4Creeks team developed alternative improvement scenarios for review and discussion with the community.

To help focus the community on certain specific aspects of the study area, design concepts were developed for three (3) typical representative portions of the study area—the External Streets, the Northern Neighborhood, and the Southern Neighborhood. Additionally, a concept for development of the park site was also prepared to illustrate how storm water management might be incorporated into the park use.

The following describes concepts that were prepared and presented at the May 19, 2011 community meeting. (See Appendix C-3)

i. Collector Streets:

To illustrate the potential level of improvements suitable for the external streets—Church, Washington, and Armstrong—concepts were developed for the intersection of Church and Washington as well as for a 700-foot segment south of the intersection along Church and a segment approximately 700 feet east along Washington to the intersection with Elm Road).

1). Collector Streets Concept A:

Church Road and Washington Avenue both have a right-of-way of approximately 80 feet. This concept proposed introduction of a 14-foot wide landscaped median and 12-foot wide travel lanes in each direction. The median transitioned to a left turn lane at 4-way intersections only. The concept did not allow for left turns at 3-way intersections. Additionally, when outside of the influence of intersections and cross walks, an 8-foot wide parallel parking lane was provided in each direction. Planter areas were proposed at intervals within the parking lane to provide opportunities for shade trees. The total curb-to-curb roadway width was 54 feet leaving

approximately 13 feet behind the curb on both sides of the street. (See Exhibit 5).

An 8-foot wide walkway was proposed behind the curb on both sides of the street, although given the boundaries of the study area, the sidewalk would be developed only on the east side of Church Road and the south side of Washington Avenue. If this concept were to be applied to Armstrong Avenue, the 8-foot wide sidewalk could be developed on both sides of the street; however, given the level of service status of Armstrong Avenue, it would be unlikely that the median could be developed.

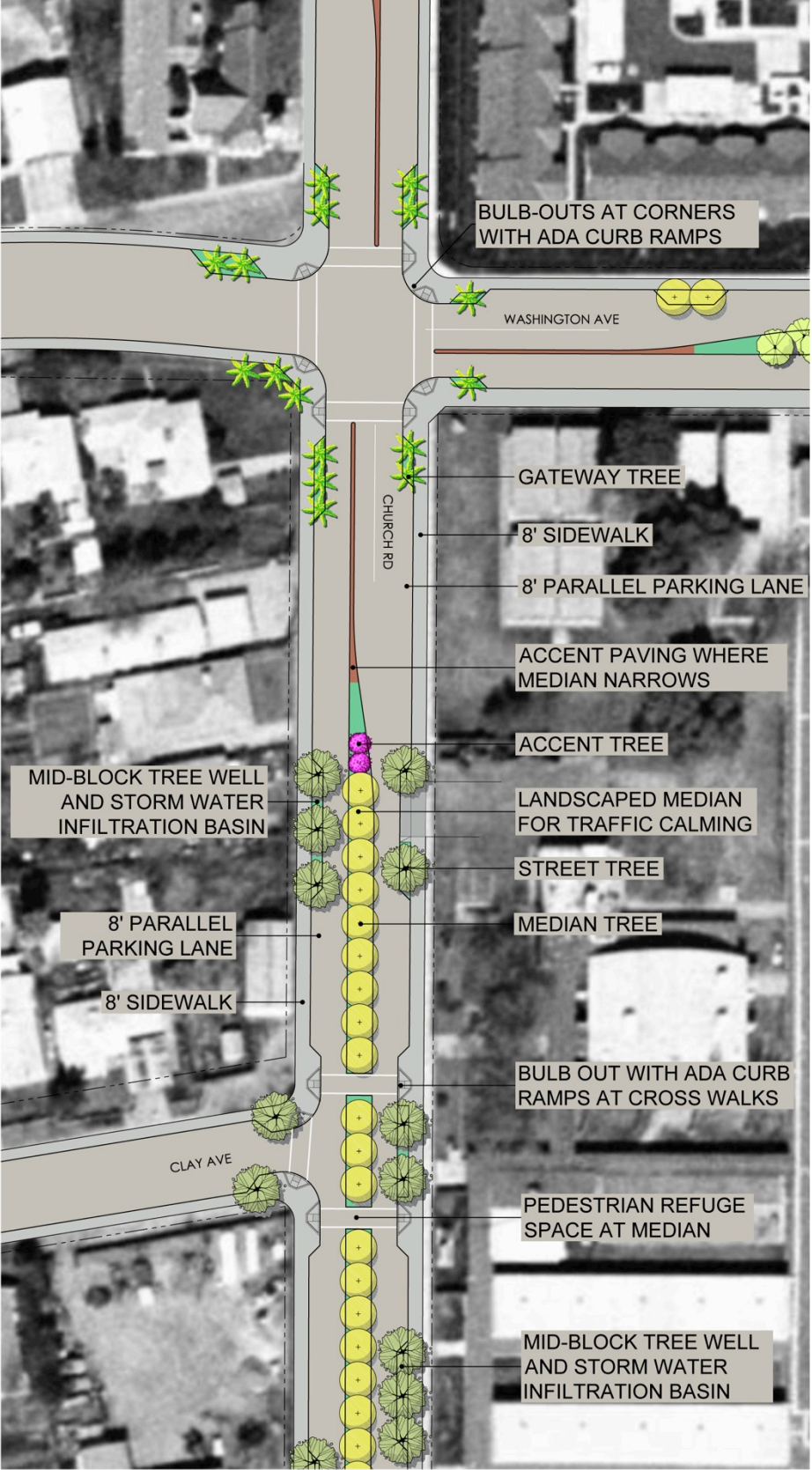
An option presented with Concept A was to include an on-street bike lane in each direction along Church Road. A bike lane of some type is highly recommended to facilitate a safe route to and from the elementary school; however, addition of the bike lane in this concept reduces the opportunity to plant behind the sidewalk. (See Exhibit 5).

The landscaped median together with the intermittent planters along the parking lane served to provide the appearance of a narrow travel corridor, which tends to act as a traffic calming element. Additionally, the intermittent planters in the parking lane provided an opportunity to receive and infiltrate storm water, which would reduce the impact on downstream areas.

The intersection of Church Road and Washington Avenue is currently a major gateway statement opportunity given the additional right-of-way that currently exists. Unfortunately the County has already initiated improvements to this intersection, which greatly reduces this opportunity (see Exhibit 4). As a compromise, however, this concept proposes enhanced planting with “signature” accent tree planting at all four corners.

Significant Pros and Cons of Concept “A”	
Pros	Cons
<ul style="list-style-type: none">• Good traffic calming affect• Establishes strong sense of place• Provides opportunity for strong statement of neighborhood character• Potential for on-street bike lanes in each direction	<ul style="list-style-type: none">• Median limits left turn movements• Relatively high construction cost• Relatively high maintenance cost

Exhibit 5
**Church Road:
 Concept A**



**Typical Cross
 Sections**

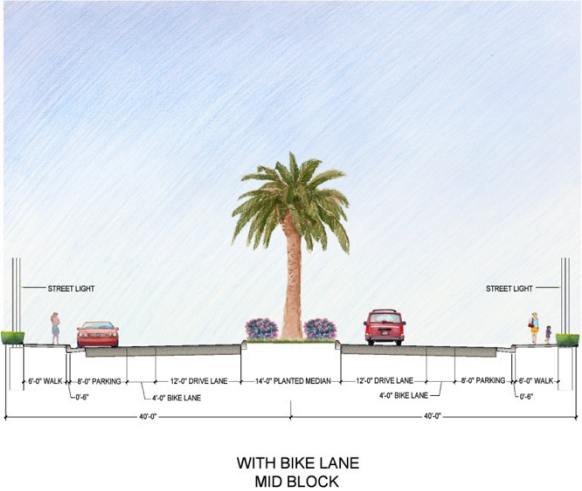
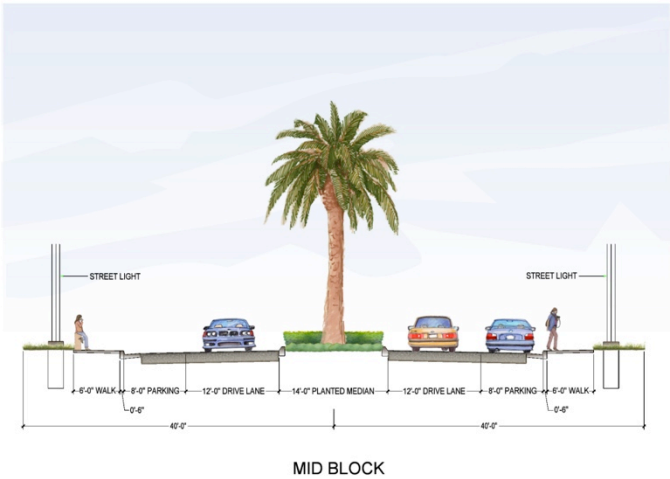
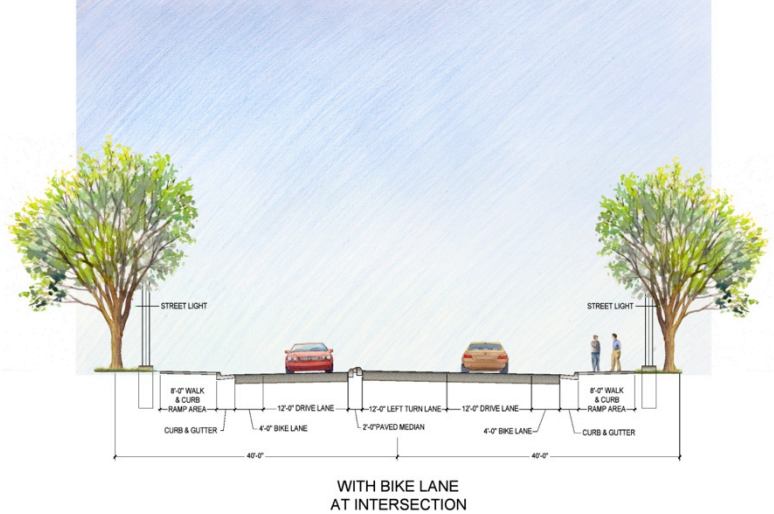
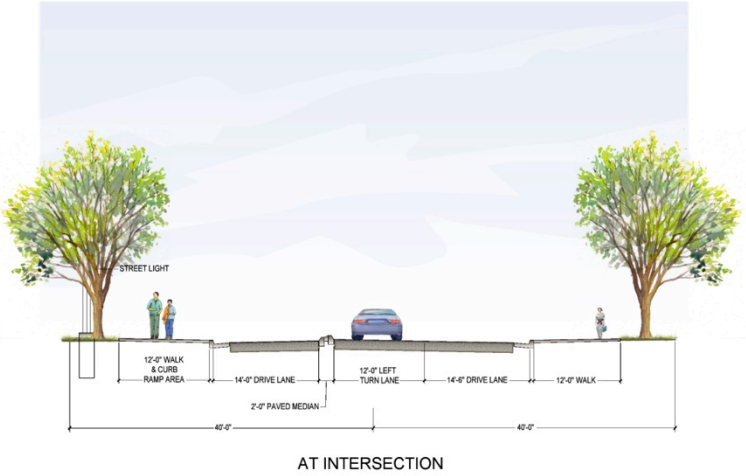
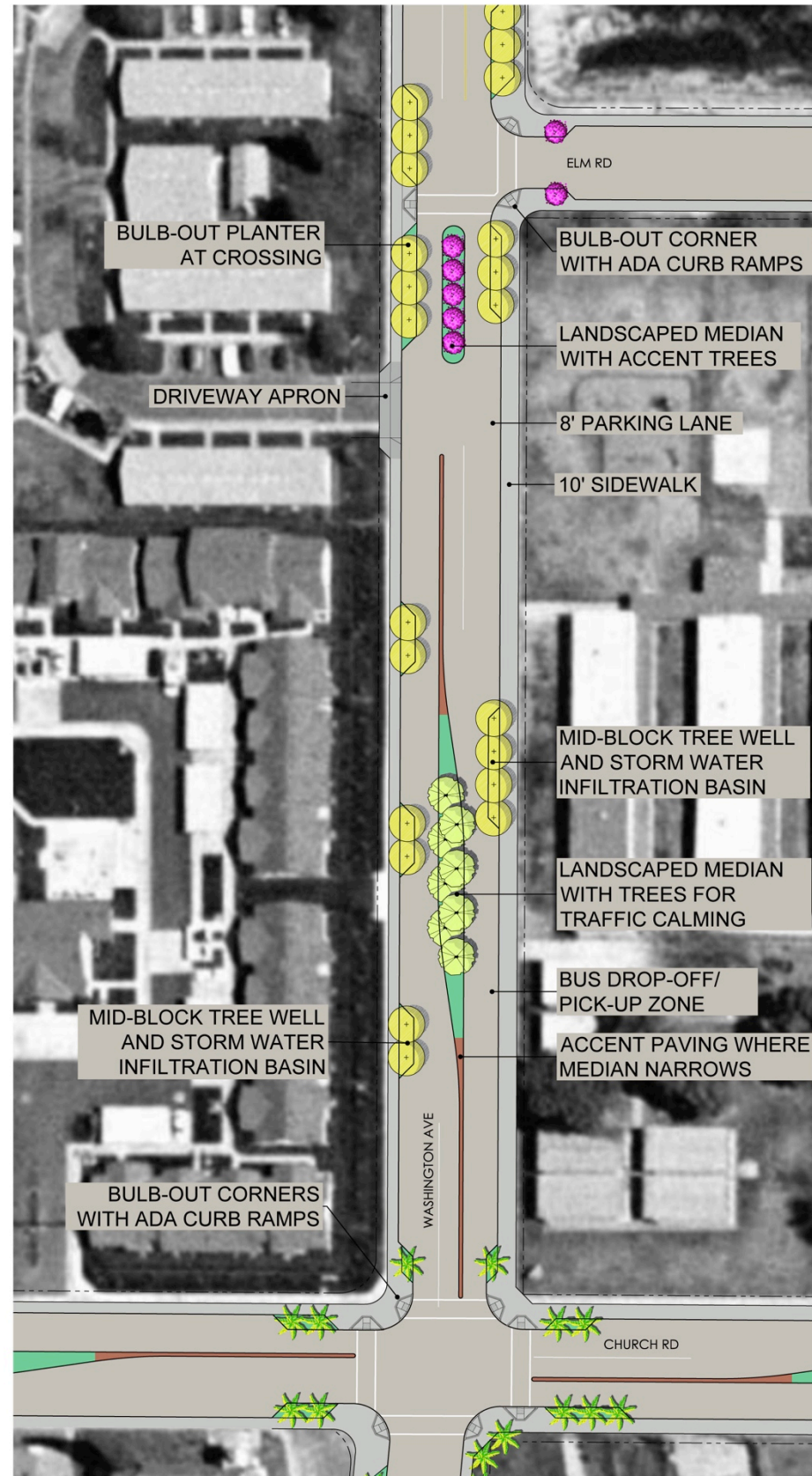
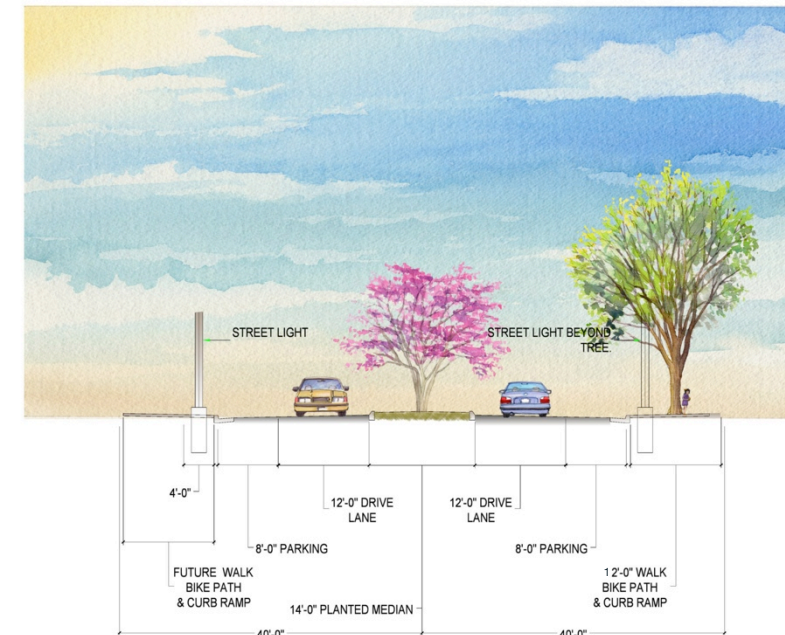


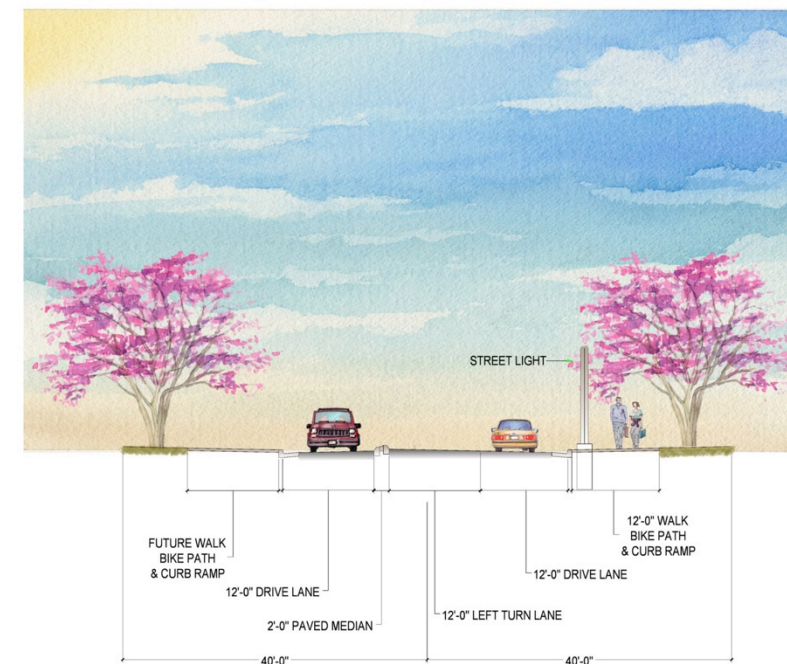
Exhibit 6
**Washington Street:
 Concept A**



Typical Cross Sections



MID BLOCK
 (LOOKING EAST)



AT INTERSECTION
 (LOOKING EAST)

2). Collector Streets Concept B

In lieu of the landscaped median proposed in Concept A, this concept proposed a 2-way left turn lane. This feature reduced the tree planting potential and resultant traffic calming effects; however, it would facilitate full left turn maneuvers at all intersections and between intersections as well. The resulting street cross section totals 52 feet, curb-to-curb, and includes a 12-foot 2-way center turn lane, 12-foot travel lanes in each direction, and an 8-foot parallel parking lane on each side of the street. This leaves 14 feet on each side of the street for improvements such as sidewalks and landscaping behind the curb. Similar to Concept A, an option for an on-street bike lane was incorporated into Concept B as well.

Significant Pros and Cons of Concept “B”	
Pros	Cons
<ul style="list-style-type: none">• Good left turn movements• Relatively moderate construction cost• Relatively moderate maintenance cost• Potential for on-street bike lane in each direction	<ul style="list-style-type: none">• Less traffic calming affect• Less opportunity for street trees• Less opportunity for strong statement of neighborhood character

Typical Existing Collector Streets

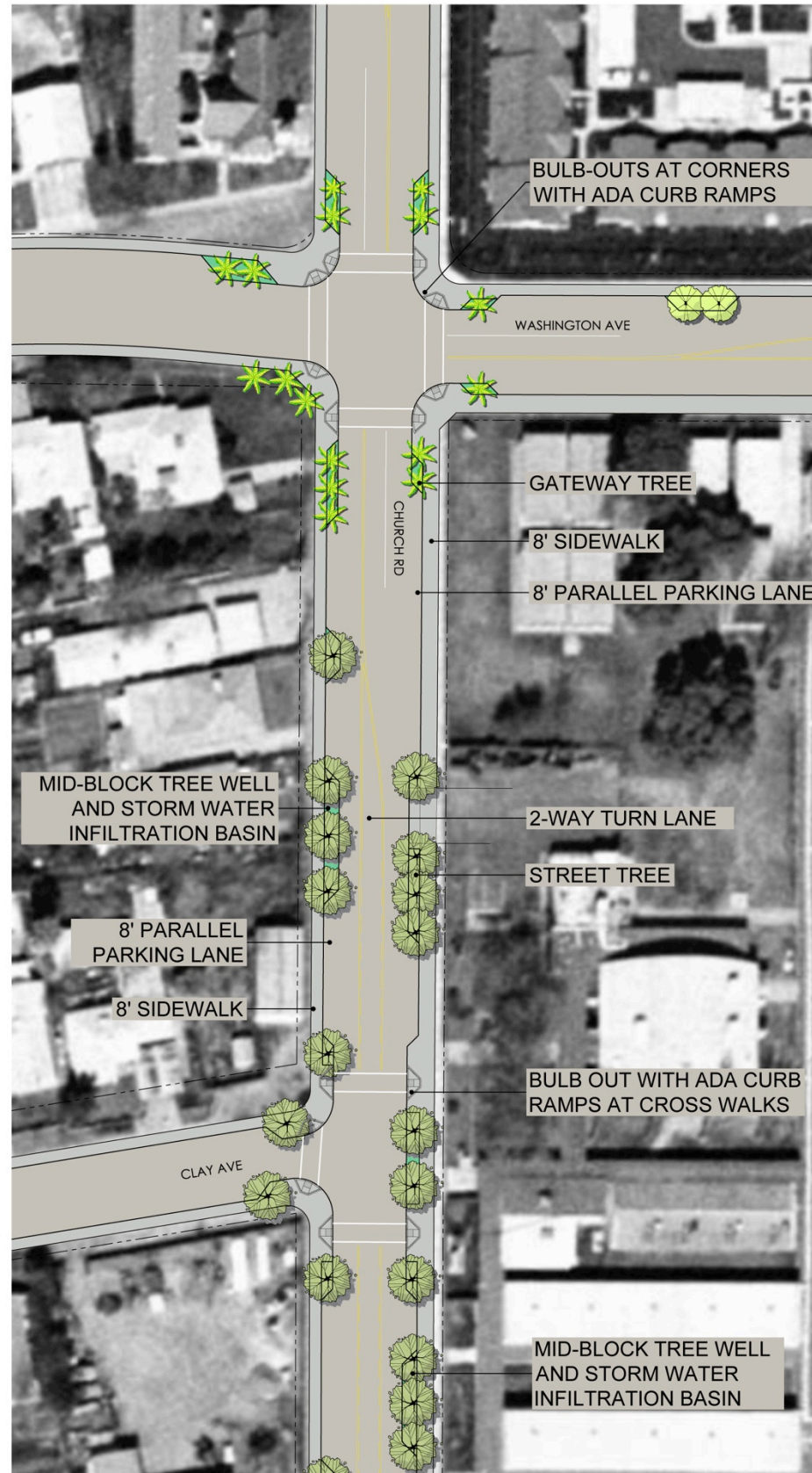


Washington and Church



Southbound on Church

Exhibit 7
**Church Road:
 Concept B**



Typical Cross Sections

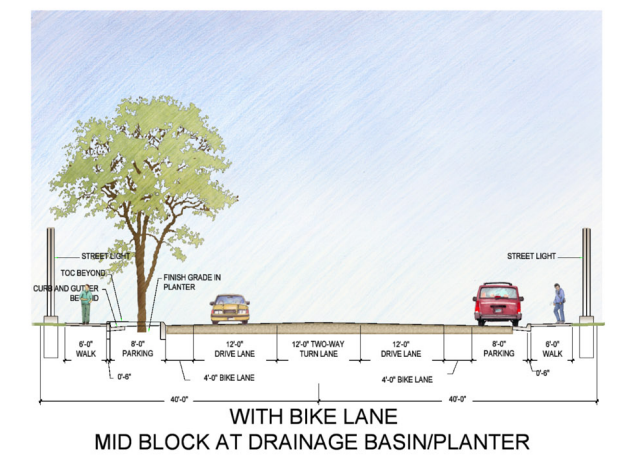
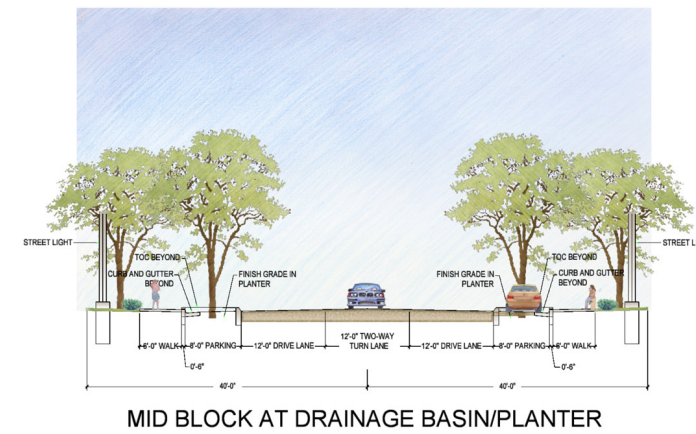
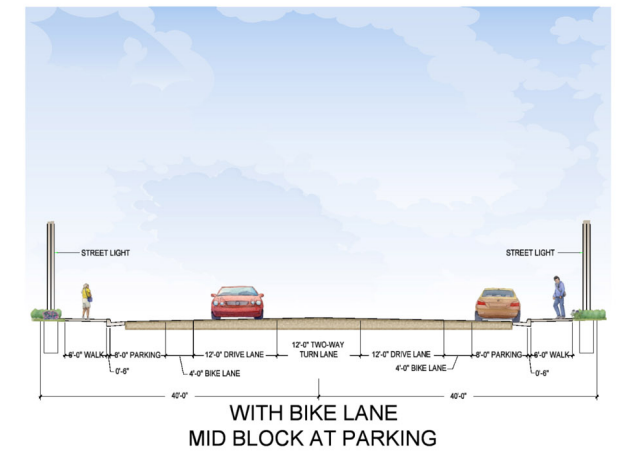
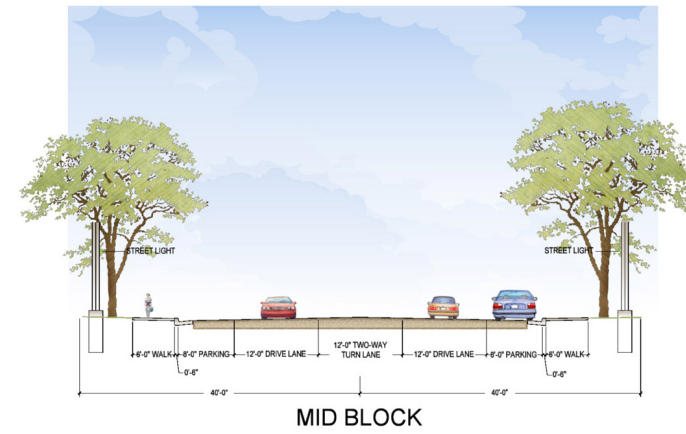
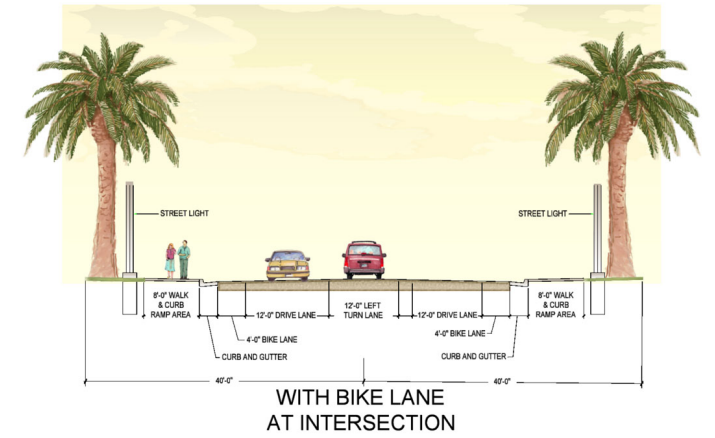
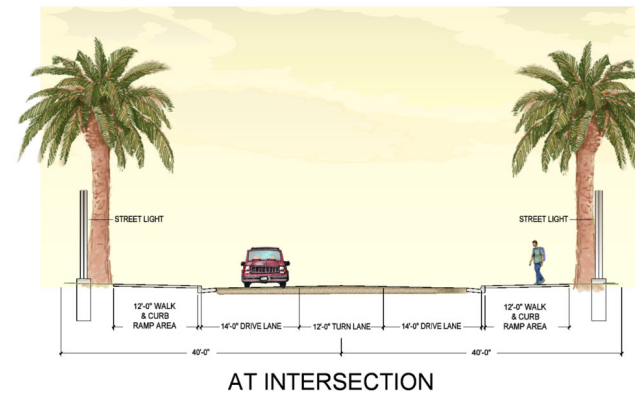
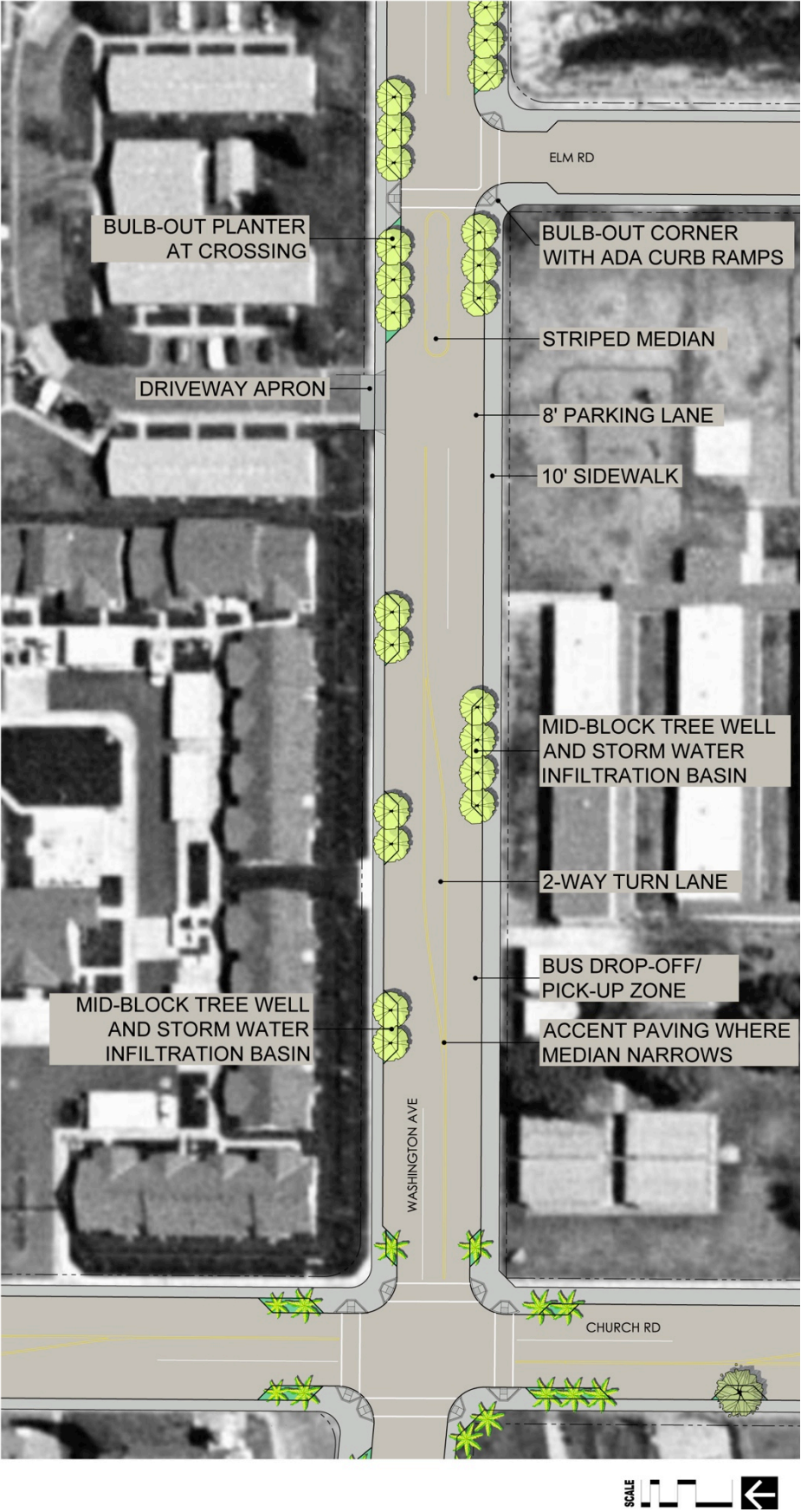


Exhibit 8

**Washington Street:
Concept B**



ii. Northern Neighborhood

All of the streets within the Northern Neighborhood are essentially the same configuration. The existing condition is a 36-foot wide paved street, curb, and gutter within a 50-foot right-of-way leaving 7 feet behind the curb on each side. About half of the frontage has a 4-foot sidewalk immediately behind the curb; however, most, if not all, property owners fronting on the street have constructed fences or other private improvements within the public right-of-way. In deference to the long-term existence of the private improvements within the right-of-way, concepts were developed to accommodate these existing improvements as much as possible.

Resolving ADA compliance was one key issue in developing concepts for improvements to this area. This was particularly challenging where existing driveways cross existing sidewalk yielding cross slopes that do not meet ADA requirements. Another objective in developing alternative concepts in this area was to develop a means to introduce street trees, which would serve to scale down the street and potentially slow vehicle traffic.

1). Northern Neighborhood Concept A

To address the ADA issue where existing sidewalks cross existing driveways, this concept proposed to rebuild the driveways within the curb line allowing the sidewalks to continue uninterrupted past the driveways immediately behind the curb. This narrowed the travel way down to a corridor 20 feet wide. Adjacent to each side of each driveway, a tree well planter was proposed to help channelize traffic and protect the driveways that extended out in front of the existing curb. The combination of the narrower travel way and the tree wells were intended to serve as a traffic calming measure. Parallel parking was accommodated between the tree wells; however, the tree wells inevitably reduced the amount of on-street parking. (See Exhibit 9).

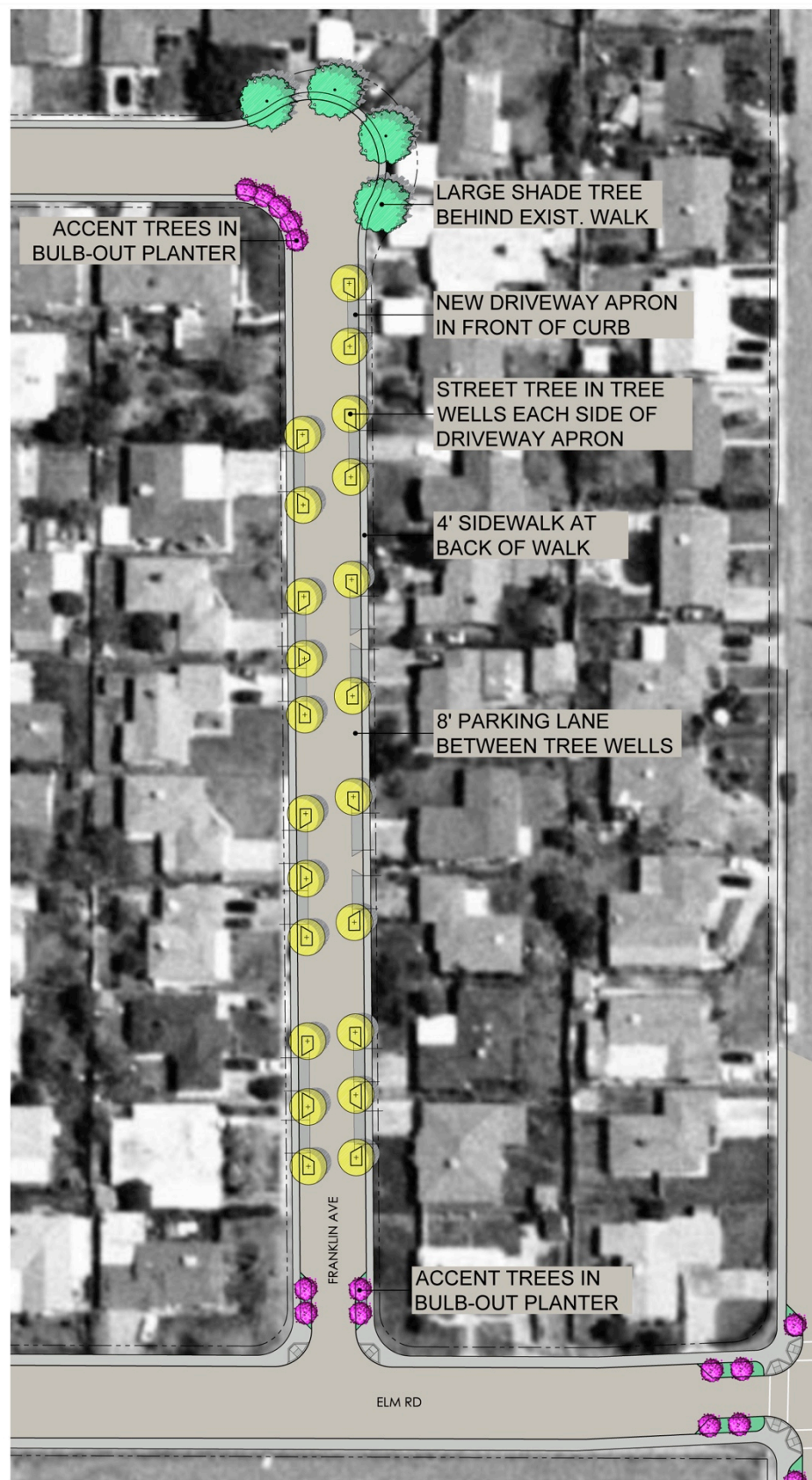
The Northern Neighborhood has an existing storm drain system in which the curb and gutter system collects run-off and directs it to inlets, which convey the storm water to an existing storm water detention basin at the southeast corner of Elm Road and Washington Avenue. Because of this the proposed driveways and tree wells were configured to allow storm water to flow uninterrupted along the existing curb. To accomplish this, the proposed driveways extending into the street from the face of curb required a culvert drain to be incorporated under each approach.

Significant Pros and Cons of Concept "A"	
Pros	Cons
<ul style="list-style-type: none">• Resolves ADA compliance conflicts• Maximizes traffic calming• Introduces street trees• Minimizes disturbance of private improvements within the right-of-way.	<ul style="list-style-type: none">• Relatively high construction cost• Disrupts existing storm water flows• High maintenance due to culverts at driveways

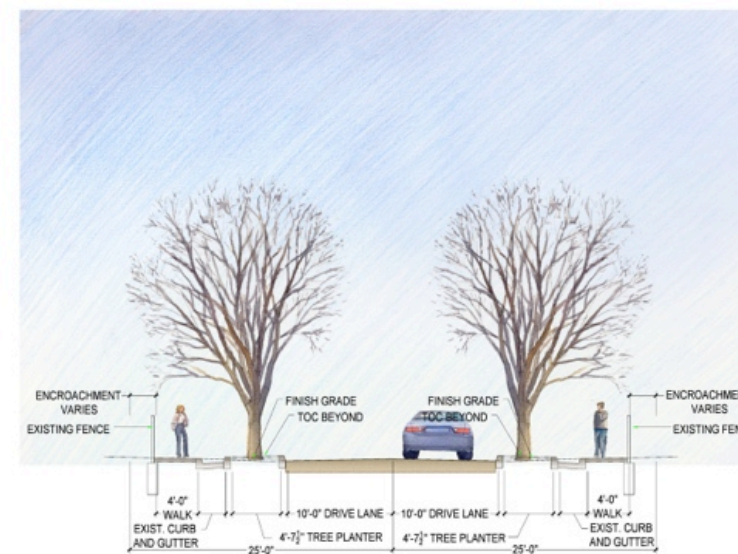
Typical Northern Neighborhood



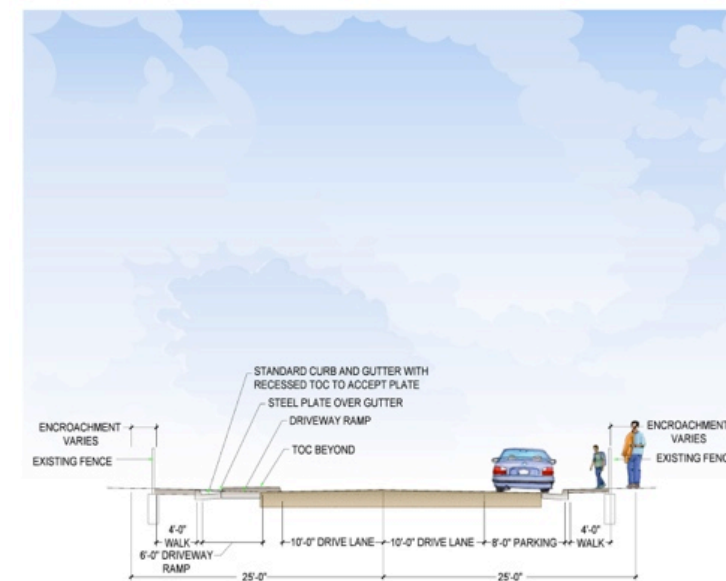
Exhibit 9
**Northern
 Neighborhood:
 Concept A**



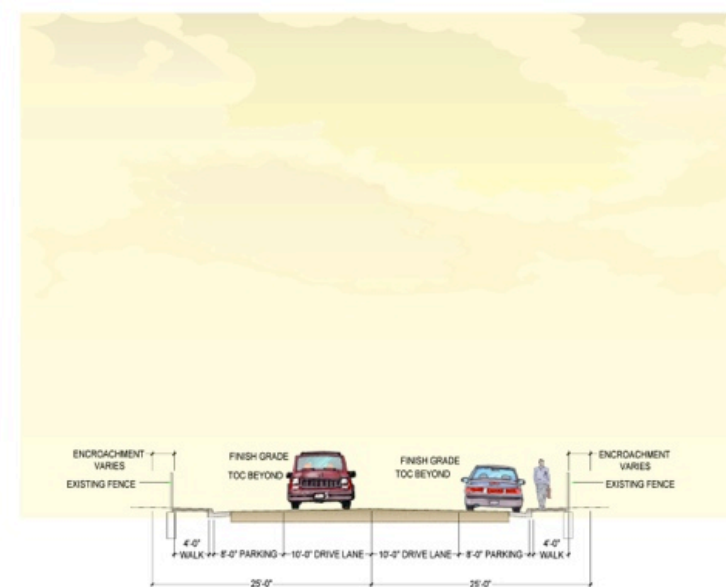
Typical Cross Sections



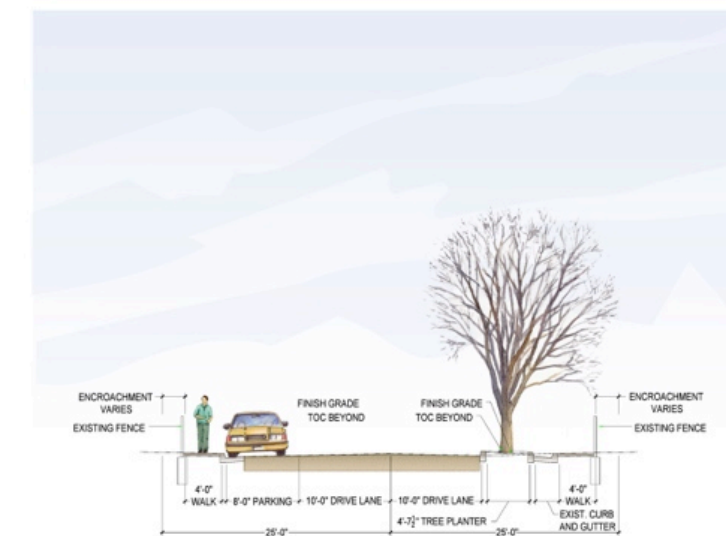
SECTION AT TREE PLANTERS



SECTION AT DRIVEWAY AND PARKING

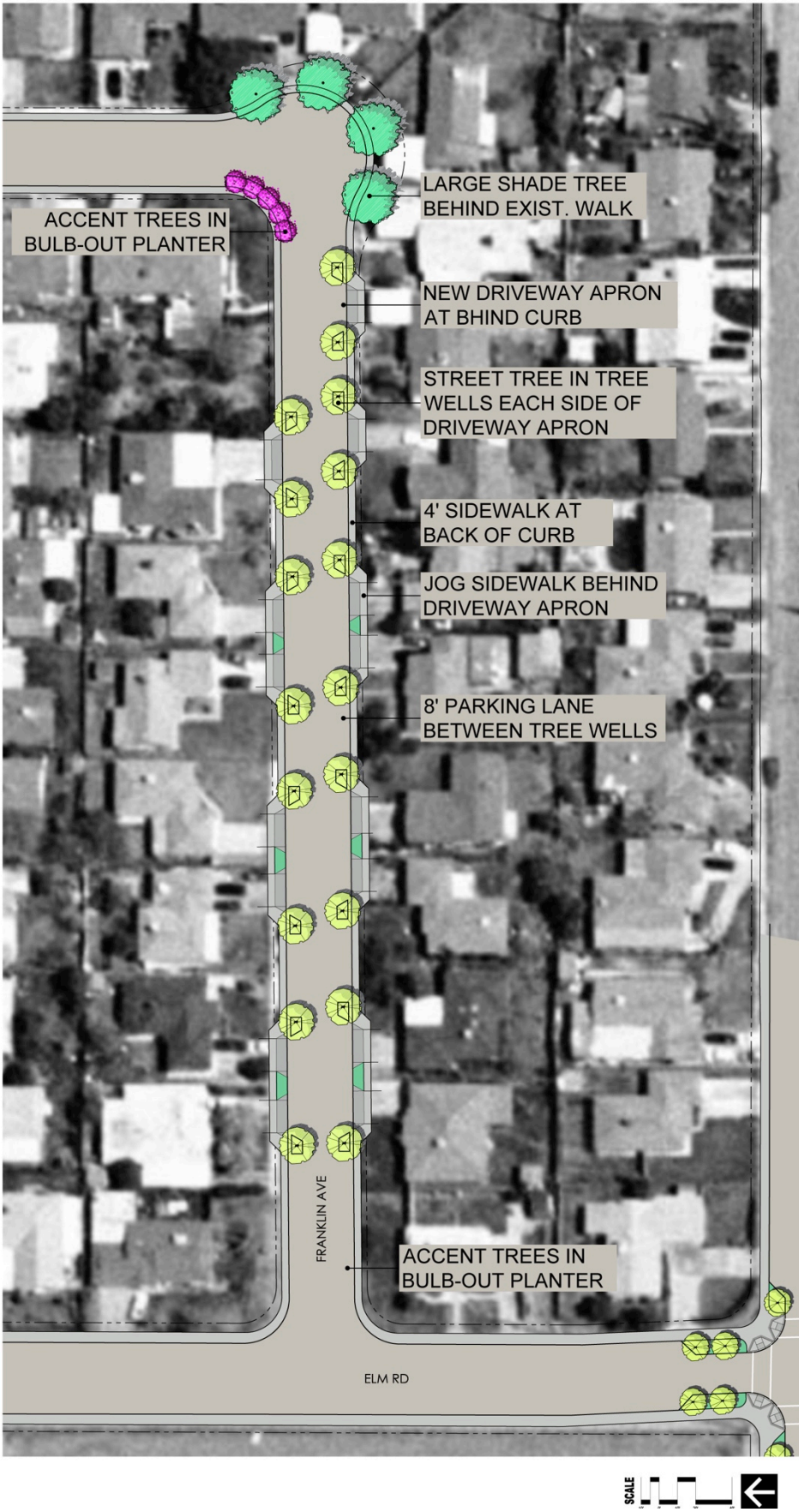


SECTION AT PARKING BOTH SIDES
 (EXISTING CONDITION)

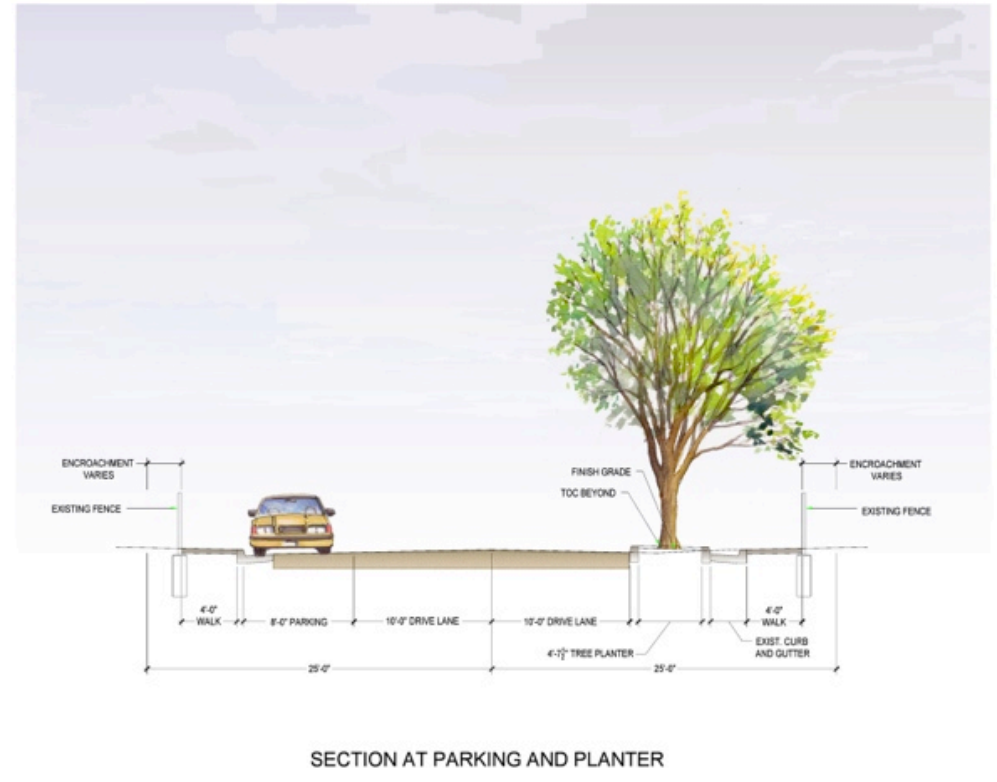
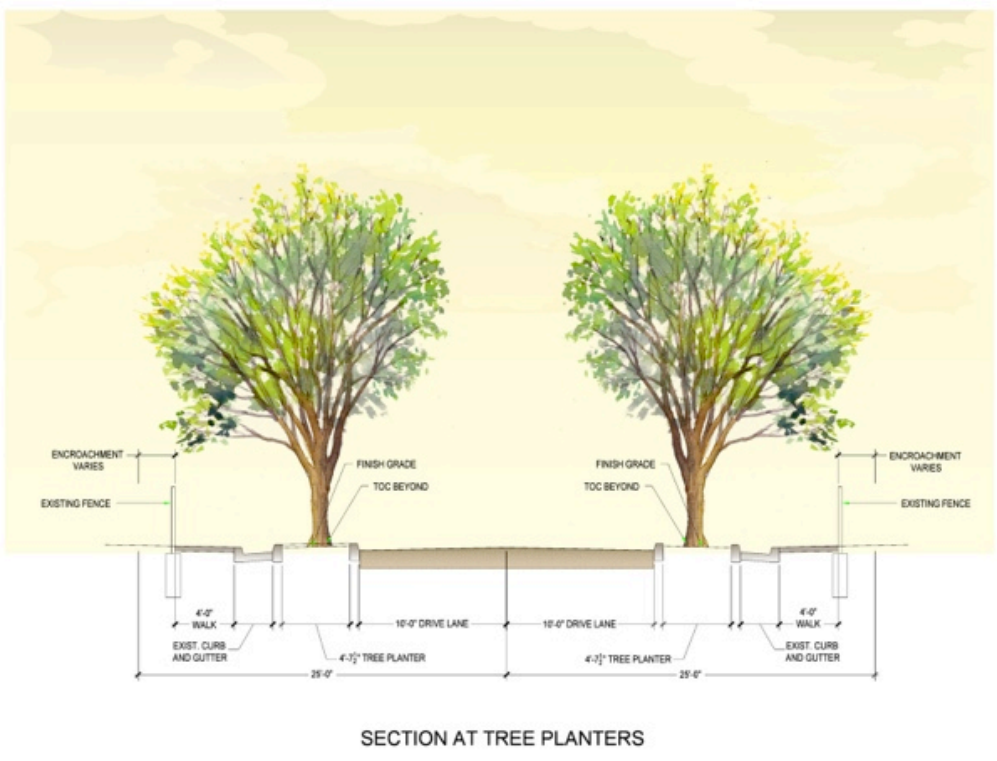


SECTION AT PARKING AND PLANTER

Exhibit 10
**Northern
Neighborhood:
Concept B**



Typical Cross Sections



2). Northern Neighborhood Concept B (Exhibit 10)

In Concept B, the ADA conflict was addressed by leaving the existing driveways in the current configuration extending up from the back of curb but shifting the sidewalk at these locations to run behind the driveways. This required removing and relocating existing private improvements within the right-of-way at each driveway location. Similar to Concept A, this concept proposed to locate tree well planters at each side of the driveways to provide an opportunity to introduce shade trees throughout the neighborhood and narrow the travel way to provide a traffic calming measure.

Significant Pros and Cons of Concept "B"	
Pros	Cons
<ul style="list-style-type: none">• Resolves ADA compliance conflicts• Maximizes traffic calming• Introduces street trees• Minimal disruption of existing storm water flows	<ul style="list-style-type: none">• Relatively high construction cost• High maintenance due to culverts at driveways• Requires modification of existing private improvements within the right-of-way

iii. Southern Neighborhood

Because of its almost complete lack of street and sidewalk improvements, this area truly offered an opportunity to propose non-traditional design solutions. To this end, the 4Creeks team looked for ways to not only establish paved roads and sidewalks, but ways to also mitigate localized flooding from unmanaged storm water.

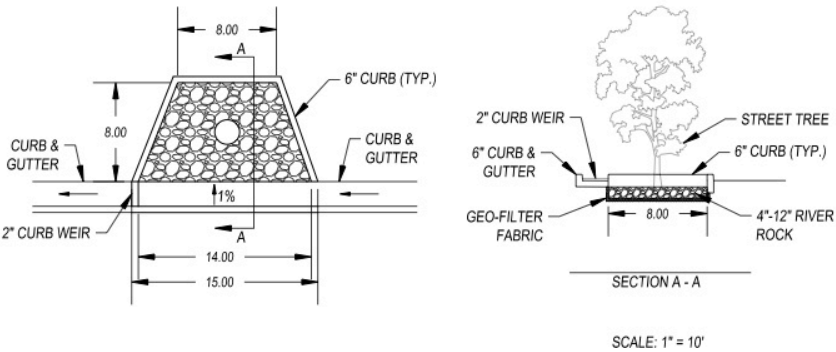
Similar to the Northern Neighborhood, the Southern Neighborhood has existing private improvements that extend into the right-of-way. This is primarily due to the fact that full street improvement were never implemented and property owners simply expanded private front yard improvements to what seemed to be a practical point. In response to this, the 4Creeks team worked to develop a plan to implement full street and sidewalk improvements that minimize the disruption of these long-standing encroachments.

1). Southern Neighborhood Concept A (Exhibit 11)

This concept proposed to provide a neighborhood scale street scene and maximize localized storm water management. The proposed solution in this concept was to establish a street cross section consisting of 22-feet of travel way with an 8-foot parking lane on each side of the street for a total 38-foot curb-to-curb paved section.

To avoid disruption of the existing private improvements such as fencing and landscaping that was established within the right-of-way, driveway ramps were proposed within the 38-foot curb-to-curb dimension. At each driveway a large tree well planter was proposed to provide protection for the driveway and channelize the travel way to the center 22-feet of the paved section. Each of these tree wells was designed to accept storm water flows as a means of detaining flows and allowing time for infiltration. Preliminary calculations suggested that each of these planters was sufficient to capture and infiltrate storm water run-off of a typical moderate rain fall event from each lot. This would do much to alleviate localized flooding during moderate events. Until the permanent regional storm drainage system is implemented downstream flooding may occur during major events.

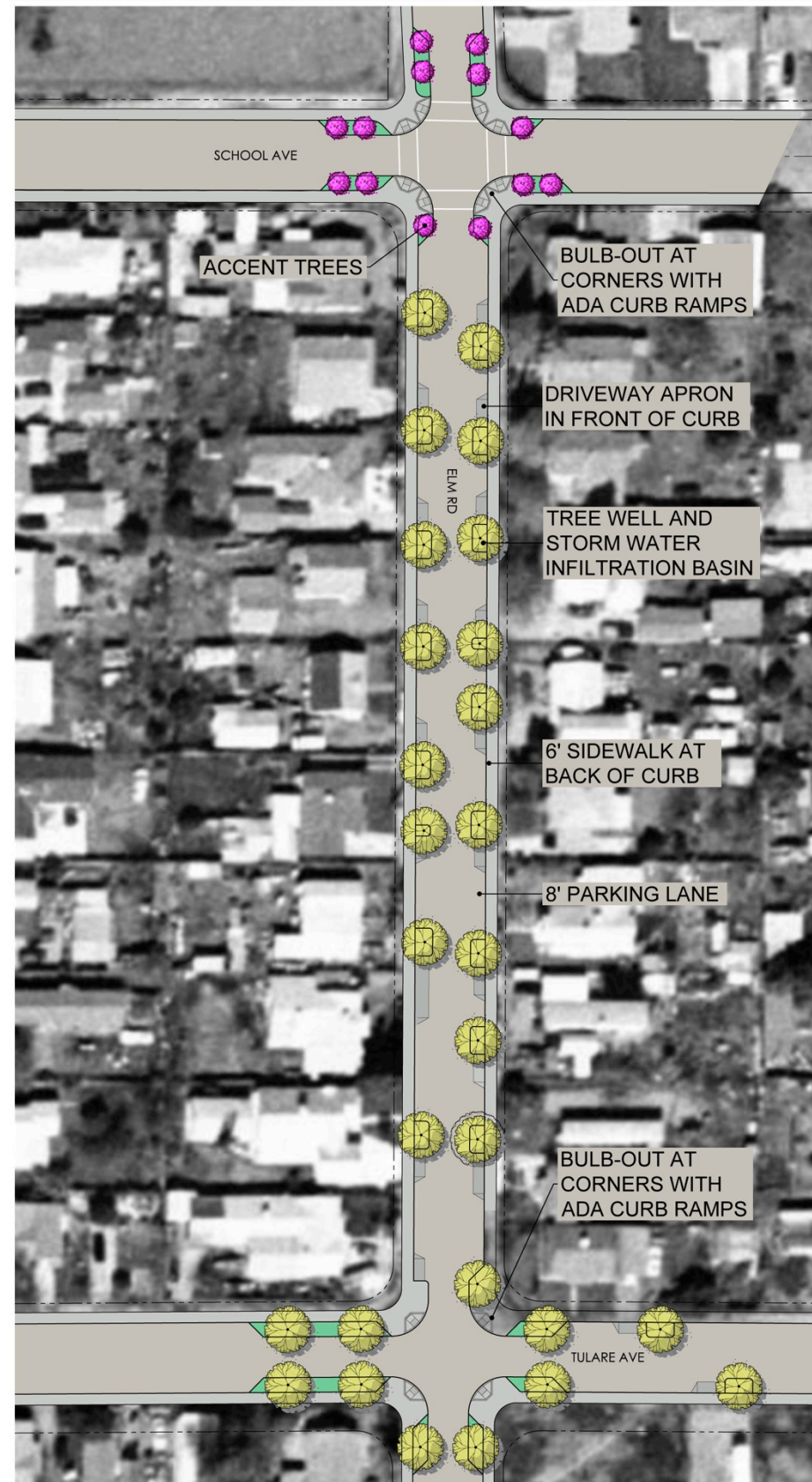
Low Impact Design Tree Well Drainage



Another traffic calming and pedestrian safety measure proposed in this concept was bulb-outs at the corners of each intersection. This design feature was intended to serve as a “threshold” to each block as well as to shorten the street crossing distance to 22 feet, which is a much safer condition for elementary school children walking to school.

Significant Pros and Cons of Concept “A”	
Pros	Cons
<ul style="list-style-type: none">• Provides for safe, ADA – compliant pedestrian circulation• Maximizes traffic calming• Introduces street trees• Minimizes impact on existing private improvements within the right-of-way	<ul style="list-style-type: none">• Relatively high construction cost• High maintenance due to numerous tree-well/planters• Reduces parking capacity

Exhibit 11
**Southern
 Neighborhood:
 Concept A**



Typical Cross Sections

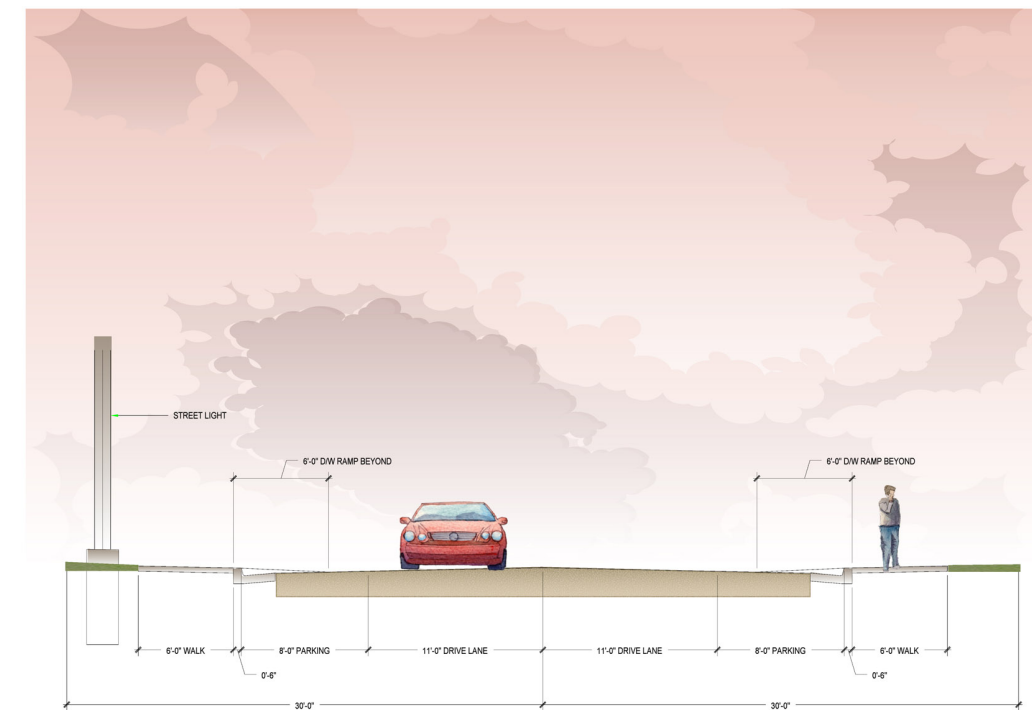
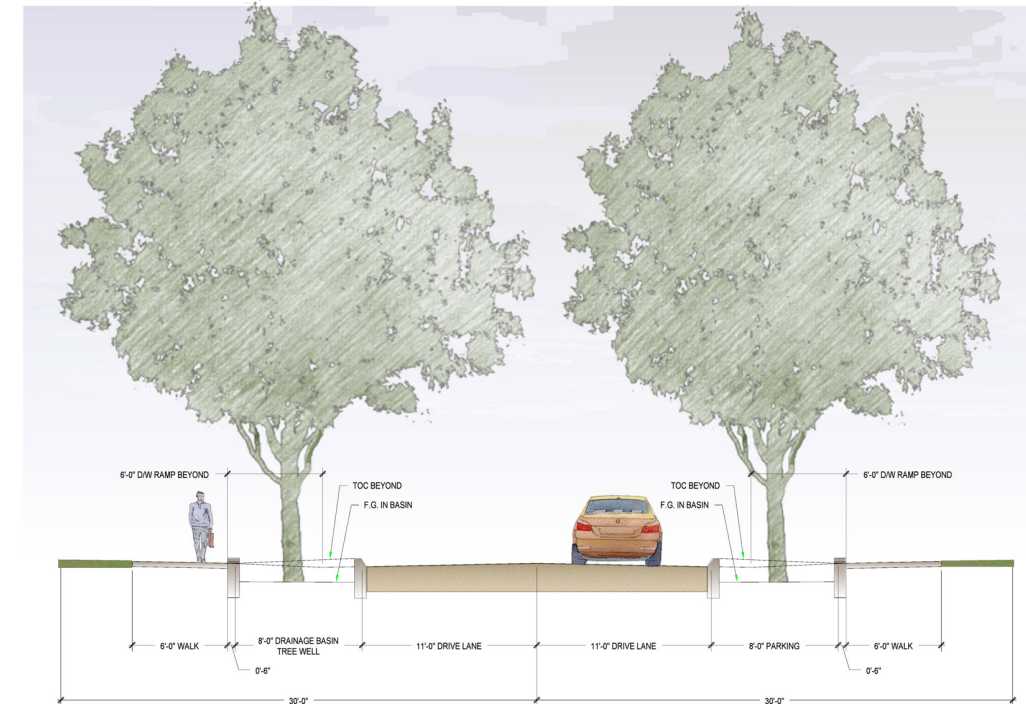
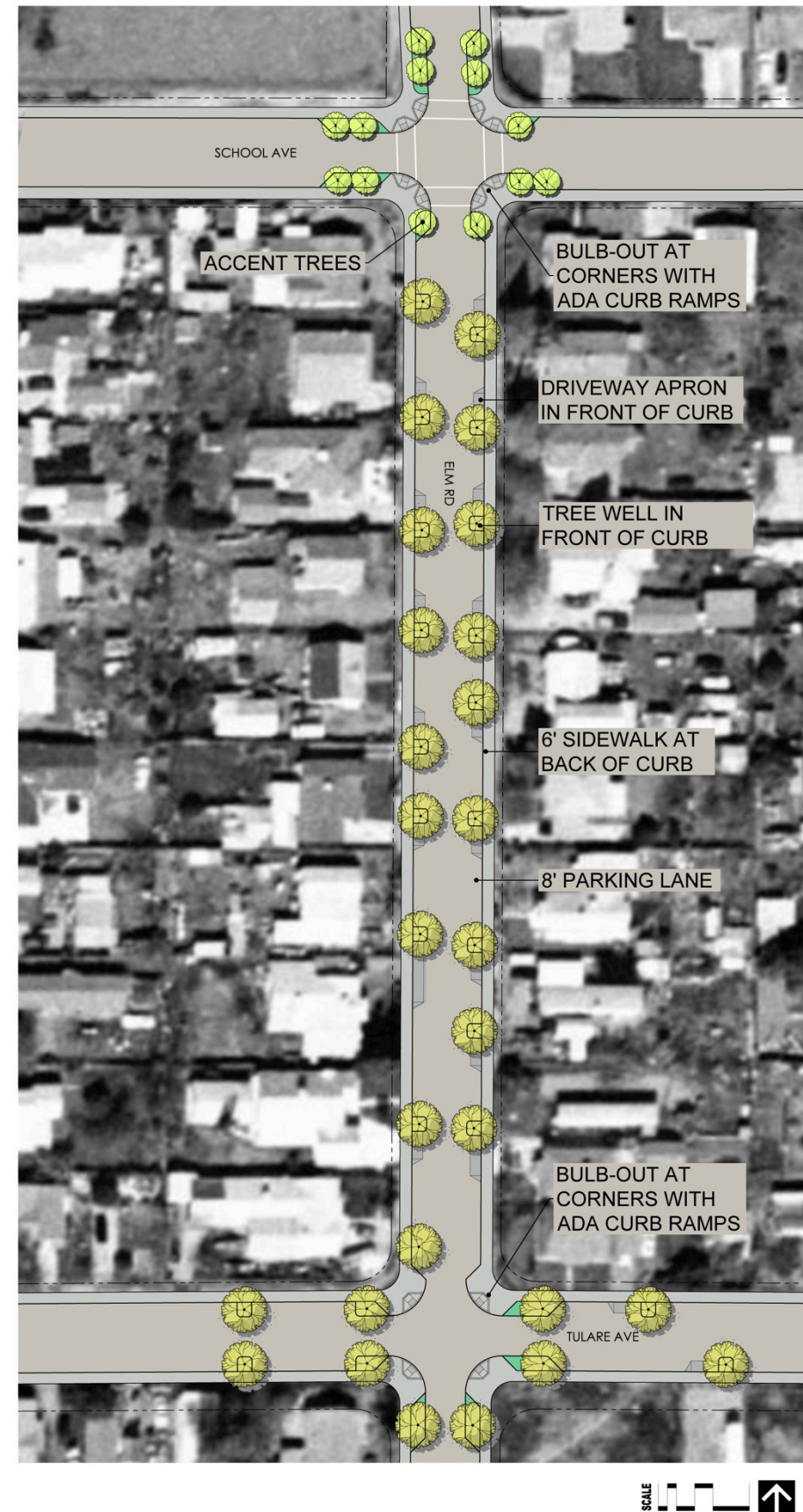


Exhibit 12

Southern Neighborhood: Concept B

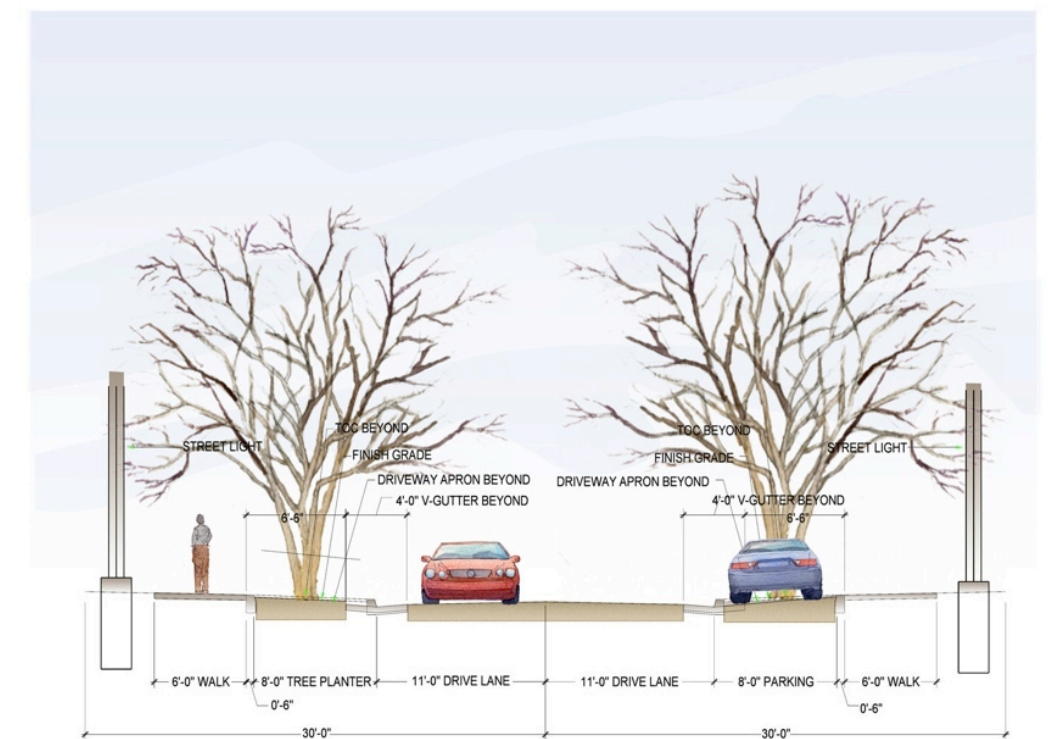


2). Southern Neighborhood Concept B (Exhibit 12)

Similar to Concept A, this design proposed bulb-outs at each intersection, reduced the travel way to 22-feet and accommodated an 8-foot parking lane on each side of the street. Likewise, the driveways were proposed as ramps protruding from the face of the curb toward the travel lanes; however, the tree wells proposed in this concept were minimized and as such were not designed to accept storm water. This allowed for more curb-side parking but did nothing to mitigate localized flooding (See Exhibit 12).

Significant Pros and Cons	
Pros	Cons
<ul style="list-style-type: none"> Provides for safe, ADA – compliant pedestrian circulation Maximizes traffic calming Introduces street trees Mitigates localized flooding during moderate storms Minimizes impact on existing private improvements within the right-of-way 	<ul style="list-style-type: none"> Relatively high construction cost High maintenance due to numerous storm water tree-well/planters Reduces parking capacity

Typical Cross Sections



iv. Neighborhood Park

The vacant property at the northwest corner of Elm Road and School Avenue was identified as a potential location to detain some volume of storm water to reduce the impact of localized flooding. This property is owned by the Earlimart School District. During the analysis phase of this study, the 4Creeks team suggested that the property could be developed as a dual purpose neighborhood park/storm water detention facility. To demonstrate how this might work, the 4Creeks team developed a conceptual design for the site. (See Exhibit 13).

Generally, this concept proposes to work in concert with the proposed storm water management system within the adjacent neighborhoods by accepting storm water run-off. The proposal is to establish a storm water system that collects storm water from the Southern Neighborhood and stores it in an oversized piping system. The storm water management concept proposes that some segments of the pipe system would incorporate perforated pipe to allow for subterranean infiltration of storm water. To facilitate using the park as a storm water overflow area, the piping system would be designed to allow the storm water to discharge into the park site as the pipe system is inundated.

Sometime prior to the invitation of the Earlimart Safety and Community Study, the School District had expressed interest in this concept and independent of this study, the District has been working with Susan Elizabeth, M.A., Community Coordinator with Healthy for Life to promote development of this park. As part of this effort, they helped form the PARRK committee, a group of local residents keenly interested in finding a way to develop the park and improve the community of Earlimart. As a result, the School District together with the Tulare County Resource Management Agency prepared an application for a State Proposition 84 grant using the 4Creeks concept as the basis of the grant.

The primary elements of the park as proposed in the Proposition 84 grant consist of the following:

- 1). Perimeter Pathway System
- 2). Multi-use Event Area
- 3). Children's Play Area
- 4). Open Turf Play Area
- 5). Gateway Features, Community Art, and Security Fencing

6). Drought Resistant Landscaping and Biofiltration Swale

If the grant is awarded, a design development process will be initiated to engage the PARRK committee and all other interested community members in the design process to develop a final design.

Exhibit 13

Neighborhood Park Concept



c. Refined Conceptual Alternatives (Plan Development Meeting #2)

Based on input received after presentation of the initial concepts at the community meeting and review comments from the County Public Works and Engineering Departments, the 4Creeks team refined the conceptual alternatives to yield the following refined concepts that were then presented for discussion at the June 23, 2011 community meeting. (See Appendix C-4)

i. External Streets – Concept C

At Plan Development Meeting #1, the community showed a strong preference for Concept A on both Church Road and Washington Avenue citing the medians with trees as one of the most desirable attributes.. Given this, the median concept was developed in further detail as Concept C for both Church and Washington

1). Church Road (See Exhibit 14):

Significant changes from Concept A for Church Road include:

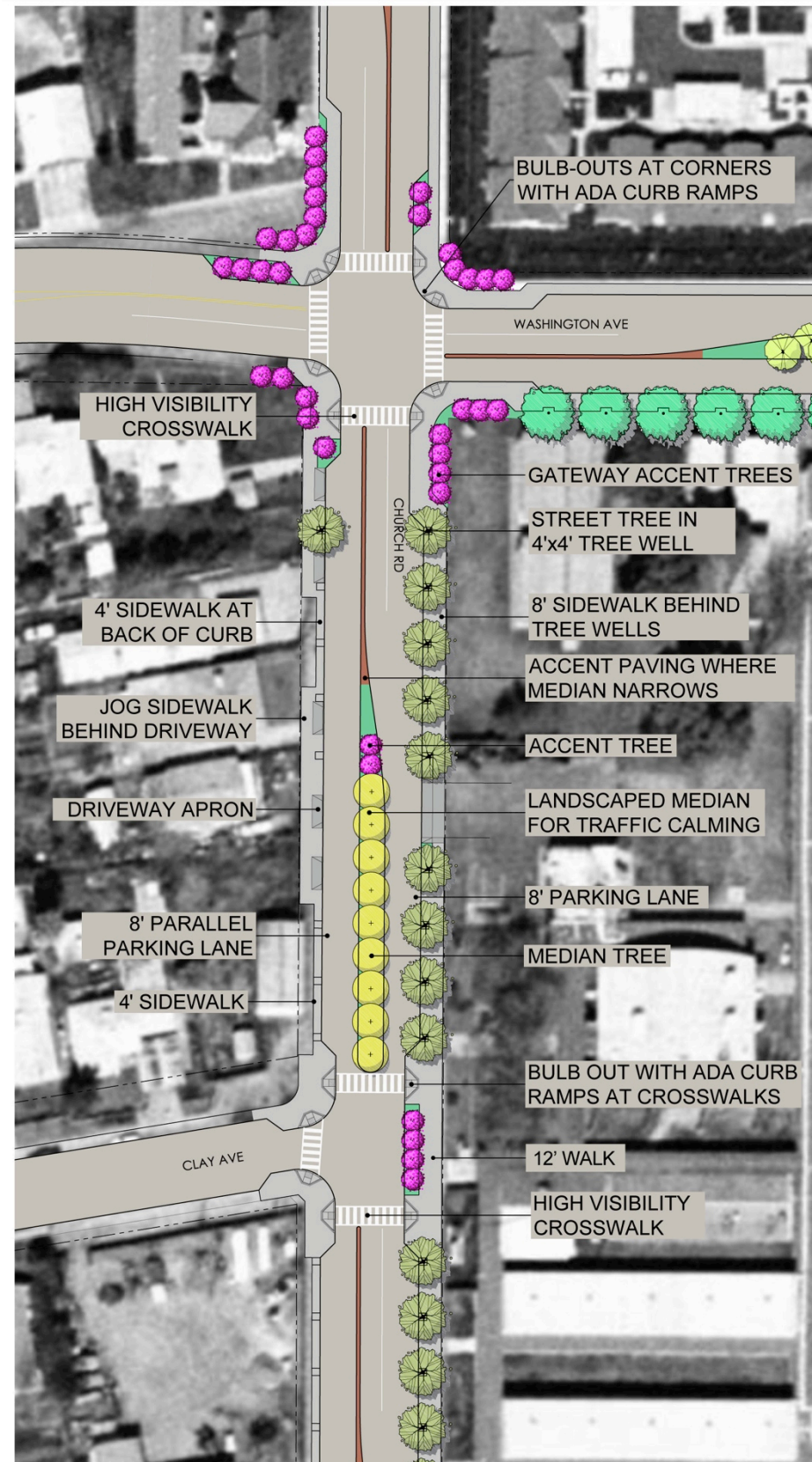
- Adding northbound left turn pockets at the “T” intersections on Church Road
- Eliminating mid block “bulb-out” planter areas
- Adding a 12-foot wide dual use pedestrian/bike path along the eastern frontage.
- Adding 4’ x 4’ tree wells behind the curb along the eastern frontage (within the 12-foot-wide pedestrian/bike path). The area at back of curb between tree wells is proposed to be paved providing an additional pedestrian safe zone and to facilitate pedestrian access to the curbside parking. The tree palette (p.53) recommends trees and other vegetation that is minimally invasive to sidewalks.
- Limiting improvements along the western frontage to curb and gutter with a 4-foot-wide sidewalk and driveway aprons except at intersections.

2). Washington Avenue (See Exhibit 15):

Significant changes from Concept A along Washington Avenue include:

- Eliminating mid-block “bulb-out” planters.
- Adding large street trees along the southern frontage at the back of the walk.
- Limiting improvements along the northern frontage to curb and gutter with a 4-foot-wide sidewalk except at the intersections with Church and Elm.

Exhibit 14
**Church Road:
 Concept C**



Typical Cross Sections

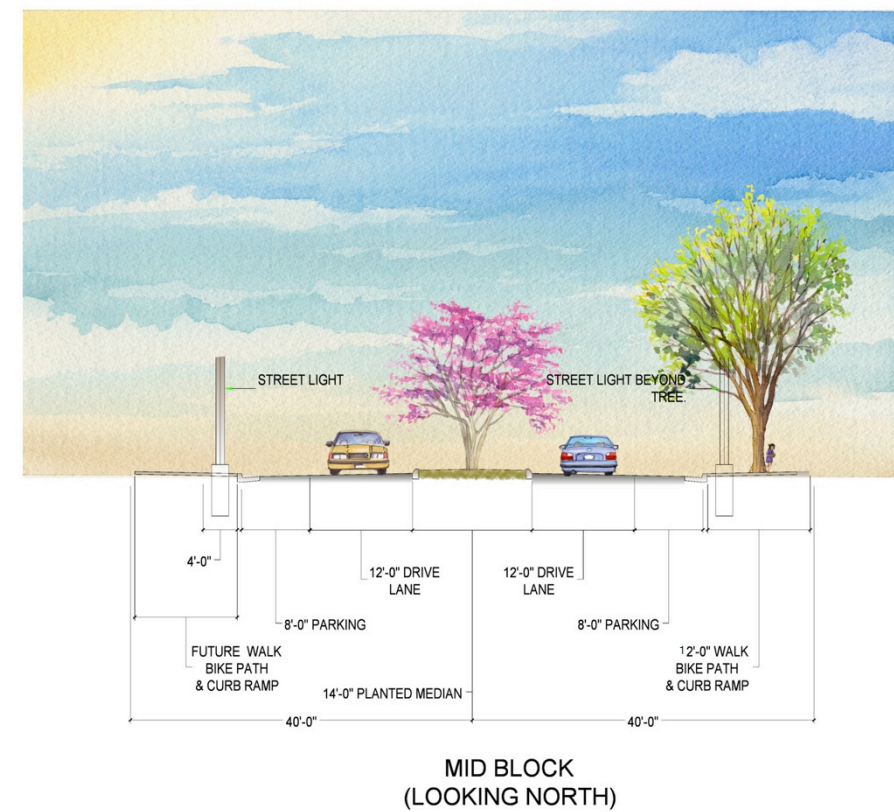
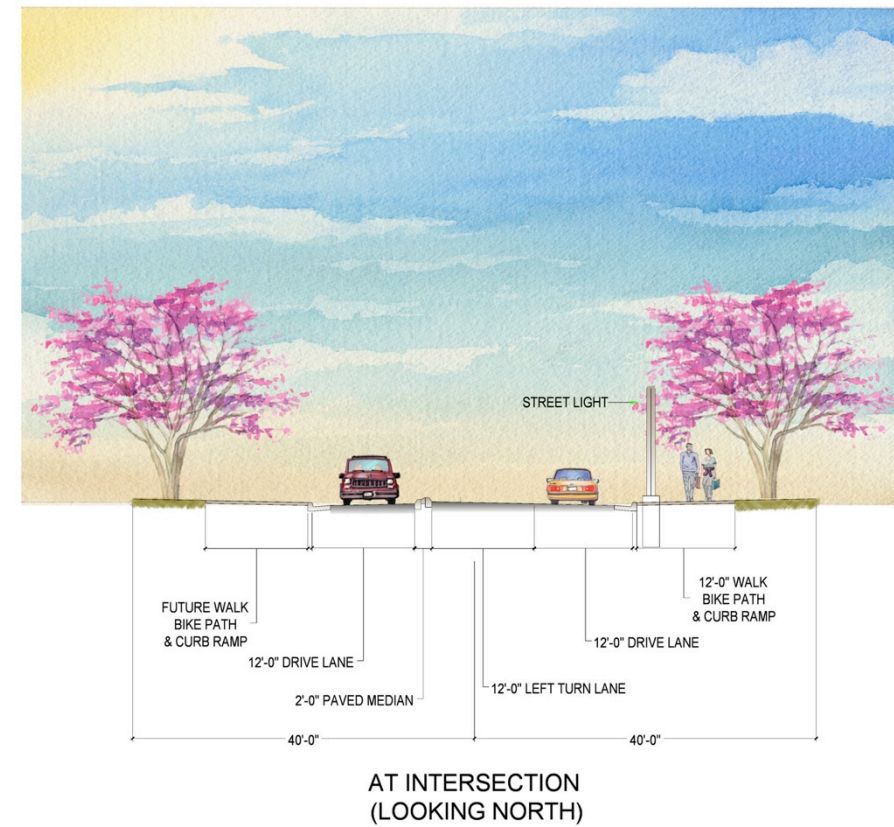
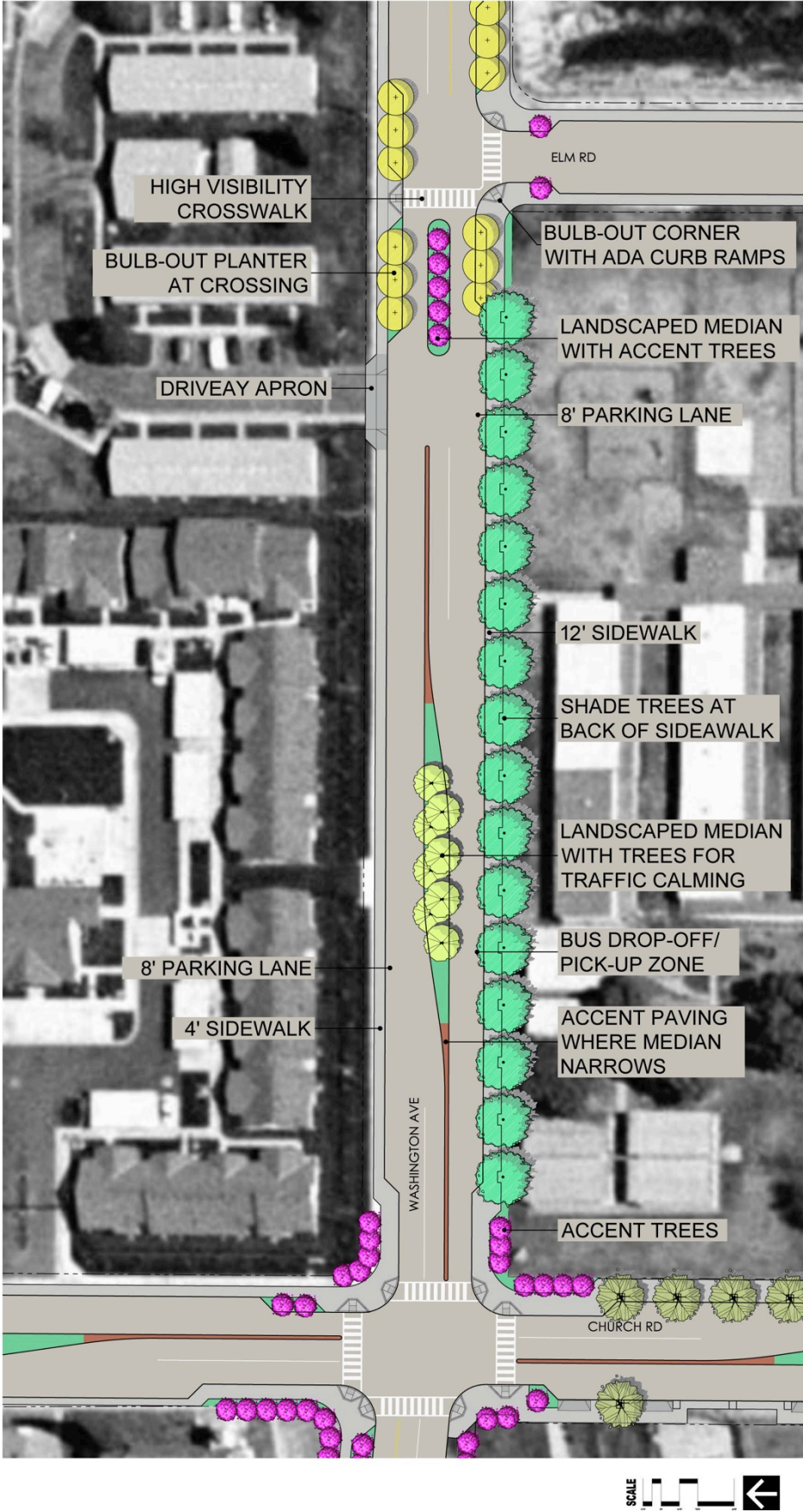
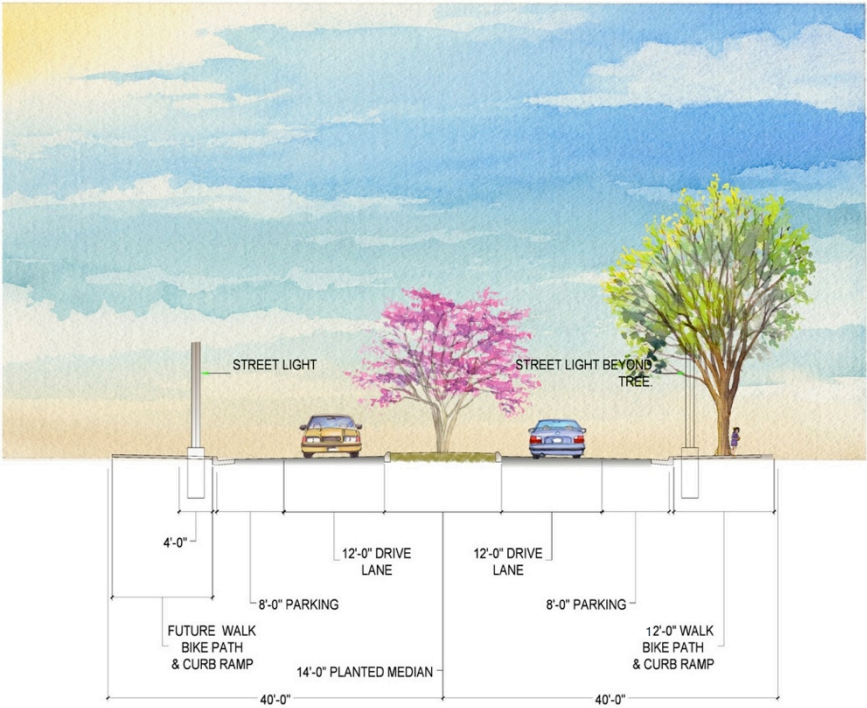


Exhibit 15

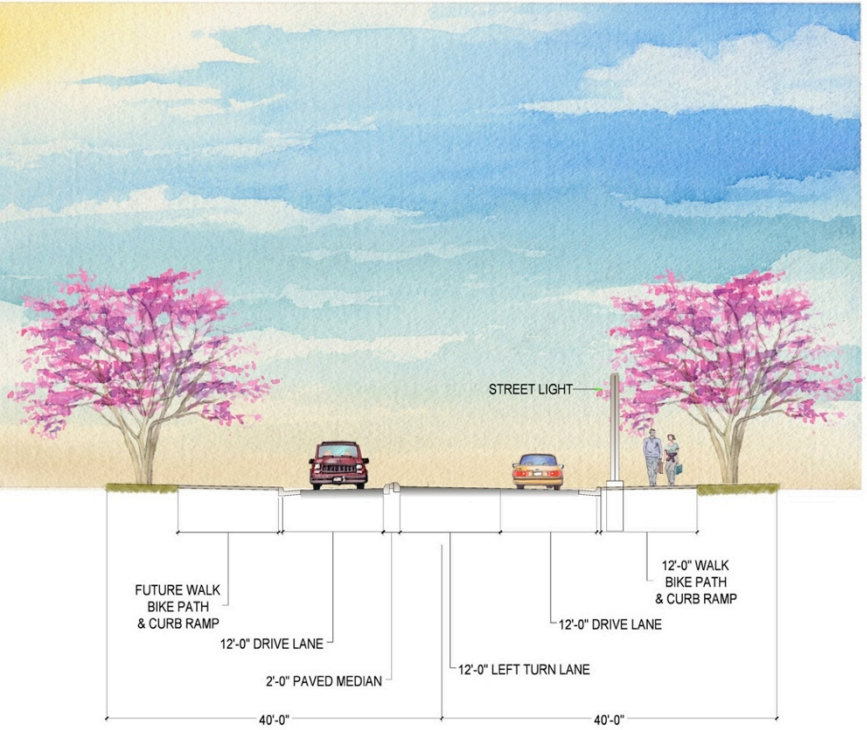
Washington Avenue: Concept C



Typical Cross Sections



MID BLOCK
(LOOKING EAST)



AT INTERSECTION
(LOOKING EAST)

Exhibit 16
**Northern
 Neighborhood:
 Concept C**



ii. **Northern Neighborhood – Concept C** (See Exhibit 16):

Concept C for the Northern Neighborhood focused primarily on work behind the existing curb. The emphasis was to resolve ADA accessibility issues by closing gaps in the existing sidewalk system. At Plan Development Meeting #1, the community generally indicated that they did not want to introduce street tree planting with “bulb-out” planters. Given the constraints of this narrow right-of-way, it was generally accepted that if trees are desired, they could be planted and maintained by individual property owners in their own yards.

The proposed sidewalk improvements continued the existing condition of a 4-foot-wide sidewalk proposed at the back of curb. This scenario would require existing driveway aprons to be removed and replaced with a new standard driveway apron, which accommodates the sidewalk behind to comply with ADA requirements. While it would be ideal to force all residents to remove all encroachments from the public right-of-way, this would be a political battle that Tulare County may be unwilling to engage in. This concept respects the fences that are currently within the right of way and proposes relocating them near driveways where additional space is required to shift the walkway to the back of the driveway apron.

See Exhibit 16 for an illustration of a typical street segment for Concept C.

Typical Cross Section

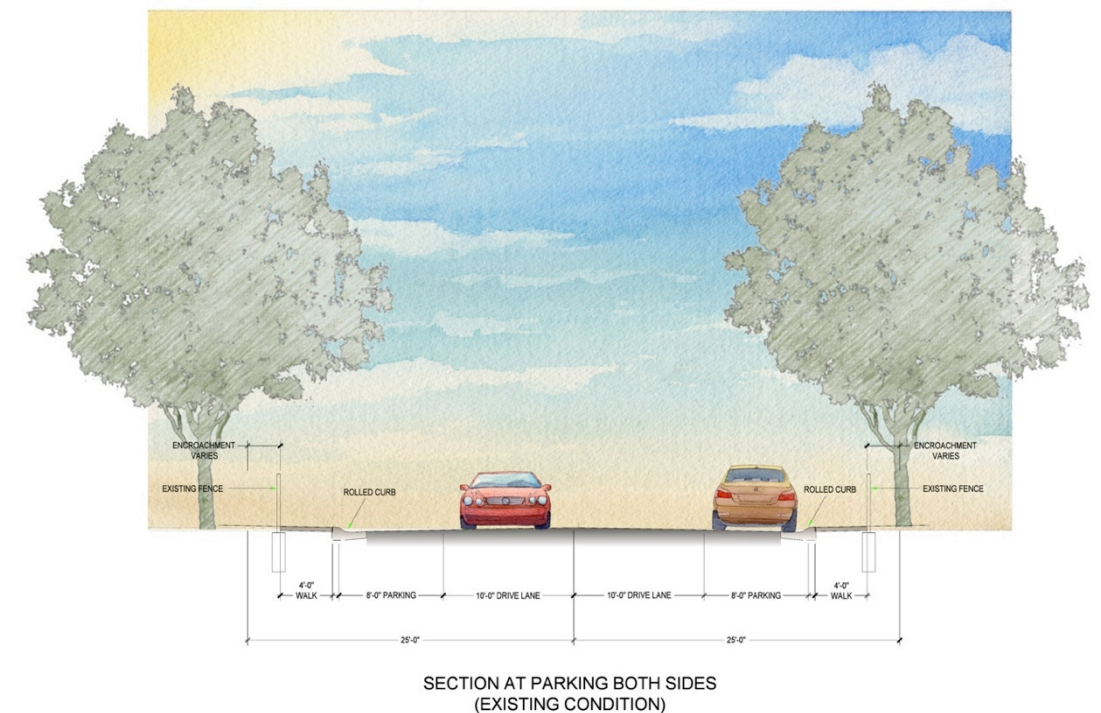


Exhibit 17
**Southern
 Neighborhood:
 Concept C**



iii. **Southern Neighborhood – Concept C** (See Exhibit 17):

Participants at the first Plan Development Meeting expressed a strong preference for Concept A which incorporated multiple mid-block tree wells within the street cross section to introduce street trees and provide some storage for storm water; however, County Public Works and Engineering expressed significant concern about the practicality of these mid-block tree wells particularly with regard to street maintenance activities. As a result, Concept C for the Southern Neighborhood eliminated these tree wells and limited improvements to standard curb and gutter with a sidewalk at the back of curb. Similar to the Northern Neighborhood, standard driveway aprons are proposed with the sidewalk jogging as necessary to go behind the apron providing ADA accessibility compliance. Bulb-outs at the intersections were maintained in this concept, which provides an opportunity for landscaping and shortens the pedestrian crossing distance thereby increasing pedestrian safety.

Typical Cross Sections



iv. Basic Improvements Concept (See Exhibit 18):

Given concern over potential development costs, a very basic improvement concept for each of the typical areas was prepared to demonstrate the minimum level of development required to achieve safe and proper vehicular and pedestrian circulation throughout the area. These basic improvement concepts generally follow the governing public works standards for each type of street. Upon presentation of the basic improvement concepts, it was evident that the community generally preferred Concept C over the basic improvement concept.

v. Neighborhood Park:

Given that development of the park site is not part of the scope of this study, the concept for the neighborhood park was not developed any further beyond the initial concept presented at Plan Development Meeting #1. The initial concept was developed primarily to demonstrate how the park site could be configured to accept a portion of the storm water run-off if necessary. If Tulare County receives the Proposition 84 grant award, a separate project to design and develop the park will be undertaken together with the PARRK Committee to finalize design. (See Exhibit 13).

Exhibit 18

Basic Improvement Concept



d. Preferred Conceptual Alternative (Plan Development Meeting #3)

As indicated above, the general consensus at Plan Development Meeting #2 was to pursue Concept C over basic improvements. In response to this, Concept C for each typical segment was developed in further detail and extended over the entire study area to demonstrate what full build-out would look like. Below is a brief discussion of significant changes from Concept C that were made as the design concepts were applied throughout the study area (see Exhibit 21). On August 25, 2011 the consultant held a final plan development meeting to discuss the cost of the proposed design. (See Appendix C-5)

i. External Streets

Due to the variety of localized conditions and specific input received at Plan Development Meeting #2, the external streets required the most modification as the design concepts were applied to various segments. (See Exhibits 14, 15, & 19). Highlights of significant design attributes are listed below under each street segment

- 1). Church Road Between Washington Avenue and Armstrong Avenue (See Exhibit 19).
 - Intersection of Church Road and Washington Avenue was refined to reflect recent modifications made under a separate County construction project.
 - Diagonal parking was added along the eastern frontage from Washington south to East Clay Avenue. This was done in response to the community's suggestion that parking should be maximized in this area to facilitate parents dropping off and picking up children at the school.
 - In-Roadway Warning Light (IRWL) Crosswalks: IRWL crosswalks have flashing warning lights embedded in the pavement at the edge of the crosswalk. Tulare County Resource Management Agency Staff have indicated they prefer the use of Rectangular Rapid Flashing Beacons (RRFB) along with advance crosswalk signs. However the community preference was the IRWL crosswalk systems, which is also 4Creeks' recommendation. It is recommended that IRWLs be installed at the following 3 locations:

- Across Washington Avenue on the west side of Elm Road.
 - Across Church Road on the north side of Washington Avenue.
 - Across Church Road on the north side of School Avenue.
- Diagonal parking was also introduced on the eastern frontage in the first block immediately south East Tulare Avenue. This is proposed to provide additional parking in front of the existing commercial parcel at the southeast corner of Church and Tulare.
 - The landscaped median with street trees was maintained most of the length of Church with left turn lane pockets in both directions at all intersections except at the "T" intersection with East Kern Avenue. Turn pockets were omitted at East Kern Avenue to allow full development of the median with tree planting in this segment.
 - Bulb-outs are proposed at all intersections.
 - High-visibility crosswalks are proposed at all intersections except at East Wilson Avenue and East Kern Avenue

Exhibit 19 External Street Example Section





- The 12-foot-wide pedestrian/bike path is maintained along the full length of the eastern frontage to provide safe access to the school.
- Tree wells, 4-foot by 4-foot at back of curb are proposed the full length of the eastern frontage at approximately 30-foot intervals where possible
- Proposed improvements are minimized along the western frontage essentially as proposed in Concept C—curb and gutter with a 4-foot-wide sidewalk.
- ADA compliant curb ramps at all pedestrian crossings.

2). Washington Avenue (See Exhibits 19).

- Proposed improvements in the preferred alternative are essentially the same as proposed in Concept C with no significant modifications. Major features include the following:
- Two 12-foot travel lanes with parallel parking on both sides except at school frontage where the parking zone will be designated as a school bus loading and unloading zone.
- Landscaped median with street trees between Church Road and Elm Road.
- Two-way continuous center turn lane between Elm Road and the eastern edge of the study area.
- A 10-foot-wide sidewalk along the school frontage with tree wells at the back of the walk. Tree wells protrude 2-foot into the walkway leaving an 8-foot unencumbered dual use pedestrian/bike path.
- A standard 5-foot wide sidewalk along the southern frontage east of South Elm Road.
- High visibility crosswalks at the intersection with Church Road and on the western crossing of the intersection with South Elm Road.
- ADA compliant curb ramps at all pedestrian crossings.

3). Armstrong Avenue (See Exhibits 21).

Because of its level of service as a regional thoroughfare, proposed improvements along this street closely follow County standards from curb to curb; however behind the curb the preferred concept proposes some non-standard elements. Key attributes of this segment area as follows:

- Lane Configuration: Two 12-foot travel lanes, a 12-foot continuous center turn lane, and an 8-foot parallel parking lane on each side for a curb to curb section of 52-foot.
- The concept of a possible 10-foot or 12-foot wide dual use pedestrian/bike path is incorporated on both sides of the street.
- Tree wells, 4-foot by 4-foot, are proposed at the back of curb within the curb and the dual use path.
- High visibility crosswalks are proposed at the intersection with Church Road and the intersection with South Elm Road.
- ADA compliant curb ramps at all pedestrian crossings.

Exhibit 21 **Armstrong Avenue Example Section**



ii. **Northern Neighborhood** (See Exhibit 22).

As noted previously Concept C is the preferred alternative for the Northern Neighborhood. There were no significant modifications required to apply the typical example segment throughout the neighborhood. Proposed improvements to this neighborhood will focus on the following:

- No changes to lane or curb configuration.
- Sidewalk infill as required to provide full ADA compliance.
- New driveway aprons to facilitate ADA compliance.
- Removal and replacement of existing curb and gutter where damaged.
- Removal and replacement or overlays to repair damaged paving areas.
- Bulb-outs and high visibility crosswalks across Elm Road at East School Avenue, the north side of East Cannon Avenue, the south side of East Kenneth Avenue, and at East Washington Avenue.
- ADA compliant curb ramps at all crossings.

Exhibit 22

Northern Neighborhood Example Section



iii. **Southern Neighborhood** (See Exhibit 23).

Similar to the Northern Neighborhood, the preferred alternative is to essentially apply Concept C throughout with only very minor modifications. Below is a list of key attributes of the preferred alternative.

- Two 11-foot wide travel lanes and 7-foot parking lanes on each side.
- Bulb-outs with landscaping at all intersections.
- Curb and gutter with standard 5-foot wide sidewalks on both sides of the streets.
- Driveway aprons at all existing driveways.
- Diagonal parking on the south side of East Tulare Avenue at Church Road (adjacent to commercial parcel).
- High visibility crosswalks at the following locations:
 - South Elm Road and East School Avenue.
 - South Elm Road and East Tulare Avenue.
 - South Elm Road and East Armstrong Avenue.
 - East Tulare Avenue and Church Road.
 - East School Avenue and Church Road.
 - East School Avenue and South Olive Road.
 - ADA compliant curb ramps at all pedestrian crossings.

iv. **Alleyways**

The Southern Neighborhood has a north/south alleyway system in the blocks between Church Road and South Olive Road running from Spruce at the south to School Avenue at the north. Given the utilitarian nature of alleyways and the general concern over the cost, it is proposed that improvements in the alleyways be limited to paving only with no special amenities or enhancements. The consensus was to make the investment on the street frontage improvements.

Exhibit 23 **Southern Neighborhood Example Section**



5 Cost

a. Improvement Costs, Preferred Alternative

The costs associated with the preferred alternative are detailed in Exhibit 24. These costs include the following categories, which are described as follows:

i. Demolition and Relocation

This category consists of removing public and private facilities located within the public right-of-way and the removal of asphalt paving materials in order to construct the preferred improvements.

ii. Site Grading

This category consists of excavating the streets and re-establishing drainage patterns in advance of the placement of base materials, curbs, gutters, sidewalks, and other improvements within the right-of-way; compacting the sub-grade in advance of placing the base materials and preparing the sub-grade for the placement of curb, gutter, and sidewalk.

iii. Sanitary Sewer

This category consists of adjusting manholes and cleanout stacks and lids to final grade.

iv. Water

This category consists of adjusting water valve stacks and castings to final grade, installing water meters for irrigation lines for landscaping, relocating and adjusting domestic water meters to final grade and relocating fire hydrant assemblies.

v. Storm Drain

This category consists of constructing and installing plastic and concrete drainage pipes (laterals and mains), catch basins and inlets, manholes and an outlet structure in the overflow basin, or bioswale, in the park.

vi. Dry Utilities

This category is for the relocation of existing power poles; it is recommended that Tulare County exercise its franchise right to keep this a “no cost” item.

vii. Concrete

This category consists of the construction of concrete curb, gutter, sidewalk, median curb, driveway approaches, and handicap ramps throughout the project area. The concrete sidewalks and ramps shall be installed to meet current ADA accessibility standards, creating a safe and accessible area for all. The curb and gutter will create drainage patterns in areas where water does not currently drain, and will assist in providing flood protection during the wet seasons of the year.

viii. Street Paving

Costs of improving streets are as follows:

- Collector Streets (Washington, Church, Armstrong) - 3-inch asphalt paving over 6-inch aggregate base.
- Local Streets – 2-inch asphalt paving over 5-inch aggregate base.
- Allies – 2-inch asphalt paving over 4-inch base.
- Northern Neighborhoods (Grinding) – Remove 2-inches of existing asphalt, replacing with 3-inch asphalt paving.

This category includes related miscellaneous tasks; saw-cutting, marking and striping streets, and the installation of two pedestrian-actuated lighted crosswalk systems. The proposed lighted crosswalk systems were requested by residents of the study area to be installed at busy crossing locations adjacent to the school to create a safer pedestrian environment.

ix. Street Signs

This category consists of the placement of the required type and number of traffic signs on poles (stop signs, directional signs, street name signs, etc.) within the project area.

x. Street Lights

This category consists of installing 43 Southern California Edison standard streetlights in the project area. The lights will be 70 watt High Pressure Sodium Vapor lights mounted 20-feet above the ground on new or existing

poles. The lights will primarily be installed at all local street intersections and at regular intervals along the collector streets.

xi. Landscaping

This category is for the installation of irrigation devices, median landscaping, street trees and other miscellaneous items. The landscaping materials that will be utilized will be appropriate for this climate area and meet State Water Model requirements in regards to using a minimal amount of water.

xii. Other

This category consists of construction contingencies (10% of construction costs), design and construction management costs (15% of the construction costs) and financing costs for bonds financing the project..

xiii. Total Estimated Costs

The estimated total cost of all of these items is \$9,676,709.28. The costs are summarized as follows:

Exhibit 24

Cost Item	Estimated Cost
Demolition and Relocation	\$1,078,879.50
Site Grading	\$302,410.75
Sanitary Sewer	\$136,200.00
Water	\$299,200.00
Storm Drain	\$606,492.00
Dry Utilities	\$0.00
Concrete	\$2,292,135.00
Street Paving	\$2,144,938.35
Street Signs	\$20,850.00
Street Lights	\$150,500.00
Landscaping	\$237,284.00
Other	\$2,407,819.68
TOTAL	\$9,676,709.28

An amortized (3.5% interest) annual payment of \$680,863.68 would be needed for twenty years to fully finance this project as recommended.

b. Annual Maintenance Assessment Costs, Preferred Alternative

A critical component of the project scope involves ensuring that the improvements, once built, are maintained in perpetuity. For this reason the Consultant was also tasked with laying out the process to set up a maintenance assessment district that would provide the needed resources to maintain the streets, curbs and gutters, drainage system, landscaping and other improvements that are built to serve this area. The basic maintenance components are as follows:

- Street sweeping the curbs within the project area using a vacuum type sweeper every other week as recommended by the Air Quality District.
- Storm drain system maintenance consisting of periodic cleaning of storm drain inlets, basins and sumps to make sure that they are free from unwanted and undesirable debris and operate properly.
- Landscaping maintenance consisting of periodic tree trimming and shaping to keep trees healthy, irrigation of the landscaping and strategic trimming to ensure that vegetation does not obstruct vision at intersections.
- Trash patrol and graffiti removal consisting of periodic activities to pick up litter and remove or cover up graffiti on public property and facilities in the project area.
- Miscellaneous maintenance activities, consisting of patching streets, repairing concrete, replacing signs and maintenance of the pedestrian actuated school crossing system maintenance.
- Street lighting costs paid to the electrical service provider to illuminate street lights installed in the project area.
- Miscellaneous administrative costs consisting of the preparation of the annual engineer's report, costs to manage and supervise maintenance activities performed within the district, a contingency reserve for unexpected costs and annual filing fees paid to the county.

The total estimated annual cost of all of these services and activities in the study area is about \$121,900. These activities would continue in perpetuity to ensure the improvements constructed with this project are adequately maintained. Estimated annual cost for a typical 7,500-square foot lot is \$270.10. See Exhibit 24a for a detailed breakdown.

Exhibit 24a

Annual Maintenance Activities

Description	Quantity	Unit Price	Unit	Total
Street Sweeping	7.5	\$75.00	Curb Miles (Bi-weekly)	\$14,625.00
Storm Drain/Inlets Vacuum extraction/cleaning (contract + labor)	54	\$250.00	Inlets	\$13,500.00
Sedimentation Trap Cleaning Park	1.0	\$500.00	Traps	\$500.00
Annual Tree & Shrub Maintenance (contract + labor)	500.0	\$50.00	EA	\$25,000.00
Lighted Crosswalk yearly maintenance (quarterly,annual)	2.0	\$500.00	EA	\$4,000.00
Irrigation (Landscape Areas)	65,000.0	\$0.065	SF	\$4,225.00
Trash Patrol (hours/month)	25.0	\$15.00	Hrs	\$4,500.00
Graffiti Patrol (hours/month)	50.0	\$15.00	Hrs	\$9,000.00
Periodic Pavement Maintenance				
SandSeal (every 10th year)	722,294.0	\$0.12	SF/10Yrs	\$8,667.53
Periodic Patching	175.0	\$15.00	Hrs	\$2,625.00
Periodic storm water and curb and gutter repair	175.0	\$15.00	Hrs	\$2,625.00
Periodic traffic control repair	100.0	\$15.00	Hrs	\$1,500.00
Street light electrification/operations/maintenance	43.0	\$125.00	EA	\$5,375.00
Subtotal:				\$96,142.53

Incidental Expenses

Description	Quantity	Unit Price	Unit	Total
Annual Engineer's Report	1.0	\$5,000.00	EA	\$5,000.00
Administration Fees	1.0	\$15,000.00	EA	\$15,000.00
Contingency Reserve	1.0	\$5,000.00	EA	\$5,000.00
Yearly Filing Fees	1.0	\$750.00	EA	\$750.00
Subtotal:				\$25,750.00

Summary

	Totals
Annual Maintenance Activities	\$96,142.53
Incidental Expenses	\$25,750.00
TOTAL ESTIMATED ANNUAL COST:	\$121,892.53
EST. TOTAL COST PER SF:	\$0.036
EST. ANNUAL COST FOR A TYPICAL 7,500 SF LOT (60'x125'):	\$270.10

c. Improvement Costs, Basic Alternative

In addition to the costs associated with the preferred alternative, the County of Tulare wished to understand the costs associated with a “basic” alternative. Described below are the improvements and costs, detailed in Exhibit 24a. These costs include the following categories, which are described as follows:

i. Demolition and Relocation

This category consists of removing public and private facilities located within the public right-of-way and the removal of asphalt paving materials in order to construct the preferred improvements.

ii. Site Grading

This category consists of excavating the streets and re-establishing drainage patterns in advance of the placement of base materials, curbs, gutters, sidewalks, and other improvements within the right-of-way; compacting the sub-grade in advance of placing the base materials and preparing the sub-grade for the placement of curb, gutter, and sidewalk.

iii. Sanitary Sewer

This category consists of adjusting manholes and cleanout stacks and lids to final grade.

iv. Water

This category consists of adjusting water valve stacks and castings to final grade, relocating and adjusting domestic water meters to final grade and relocating fire hydrant assemblies.

v. Storm Drain

This category consists of constructing and installing plastic and concrete drainage pipes (laterals and mains), catch basins and inlets, manholes and an outlet structure in the overflow basin, or bioswale, in the park.

vi. Dry Utilities

This category is for the relocation of existing power poles; it is recommended that Tulare County exercise its franchise right to keep this a “no cost” item.

vii. Concrete

This category consists of the construction of concrete curb, gutter, sidewalk, median curb, driveway approaches, and handicap ramps throughout the project area. The concrete sidewalks and ramps shall be installed to meet current ADA accessibility standards, creating a safe and accessible area for all. The curb and gutter will create drainage patterns in areas where water does not currently drain, and will assist in providing flood protection during the wet seasons of the year.

viii. Street Paving

Costs of improving streets are as follows:

- Collector Streets (Washington, Church, Armstrong) - 3-inch asphalt paving over 6-inch aggregate base.

- Local Streets – 2-inch asphalt paving over 5-inch aggregate base.
- Allies – 2-inch asphalt paving over 4-inch base.
- Northern Neighborhoods (Grinding) – Remove 2-inches of existing asphalt, replacing with 3-inch asphalt paving.

This category includes related miscellaneous tasks; saw-cutting, marking and striping streets, and the installation of two pedestrian-actuated lighted crosswalk systems. The proposed lighted crosswalk systems were requested by residents of the study area to be installed at busy crossing locations adjacent to the school to create a safer pedestrian environment.

ix. Street Signs

This category consists of the placement of the required type and number of traffic signs on poles (stop signs, directional signs, street name signs, etc.) within the project area.

x. Street Lights

This category consists of installing 43 Southern California Edison standard streetlights in the project area. The lights will be 70 watt High Pressure Sodium Vapor lights mounted 20-feet above the ground on new or existing poles. The lights will primarily be installed at all local street intersections and at regular intervals along the collector streets.

xi. Landscaping

This category is for the relocation of mailboxes.

xii. Other

This category consists of construction contingencies (10% of construction costs), design and construction management costs (15% of the construction costs) and financing costs for bonds financing the project.

xiii. Total Estimated Costs

The estimated total cost of all of these items is \$9,215,349.10. The costs are summarized as follows:

Cost Item	Estimated Cost
Demolition and Relocation	\$1,078,879.50
Site Grading	\$301,242.01
Sanitary Sewer	\$136,200.00
Water	\$291,200.00
Storm Drain	\$582,438.00
Dry Utilities	\$0.00
Concrete	\$2,143,055.00
Street Paving	\$2,252,863.45
Street Signs	\$20,850.00
Street Lights	\$107,500.00
Landscaping	\$8,100.00
Other	\$2,293,021.14
TOTAL	\$9,215,349.10

An amortized (3.5% interest) annual payment of \$648,401.89 would be needed for twenty years to fully finance this project as recommended.

d. Annual Maintenance Assessment Costs, Preferred Alternative

A critical component of the project scope involves ensuring that the improvements, once built, are maintained in perpetuity. For this reason the Consultant was also tasked with laying out the process to set up a maintenance assessment district that would provide the needed resources to maintain the streets, curbs and gutters, drainage system, landscaping and other improvements that are built to serve this area. The basic maintenance components are as follows:

- Street sweeping the curbs within the project area using a vacuum type sweeper every other week as recommended by the Air Quality District.

- Storm drain system maintenance consisting of periodic cleaning of storm drain inlets, basins and sumps to make sure that they are free from unwanted and undesirable debris and operate properly.
- Trash patrol and graffiti removal consisting of periodic activities to pick up litter and remove or cover up graffiti on public property and facilities in the project area.
- Miscellaneous maintenance activities, consisting of patching streets, repairing concrete, replacing signs and maintenance of the pedestrian actuated school crossing system maintenance.
- Street lighting costs paid to the electrical service provider to illuminate street lights installed in the project area.
- Miscellaneous administrative costs consisting of the preparation of the annual engineer's report, costs to manage and supervise maintenance activities performed within the district, a contingency reserve for unexpected costs and annual filing fees paid to the county.

The total estimated annual cost of all of these services and activities in the study area is about \$92,667.53. These activities would continue in perpetuity to ensure the improvements constructed with this project are adequately maintained. Estimated annual cost for a typical 7,500-square foot lot is \$205.34. See Exhibit 24c for a detailed breakdown.

Exhibit 24c

Annual Maintenance Activites				
Description	Quantity	Unit Price	Unit	Total
Street Sweeping	7.5	\$75.00	Curb Miles (Bi-weekly)	\$14,625.00
Storm Drain/Inlets Vacuum extraction/cleaning (contract + labor)	54	\$250.00	Inlets	\$13,500.00
Sedimentation Trap Cleaning Park	1.0	\$500.00	Traps	\$500.00
Lighted Crosswalk yearly maintenance (quarterly,annual)	2.0	\$500.00	EA	\$4,000.00
Trash Patrol (hours/month)	25.0	\$15.00	Hrs	\$4,500.00
Graffiti Patrol (hours/month)	50.0	\$15.00	Hrs	\$9,000.00
Periodic Pavement Maintenance				
SandSeal (every 10th year)	722,294.0	\$0.12	SF/10Yrs	\$8,667.53
Periodic Patching	175.0	\$15.00	Hrs	\$2,625.00
Periodic storm water and curb and gutter repair	175.0	\$15.00	Hrs	\$2,625.00
Periodic traffic control repair	100.0	\$15.00	Hrs	\$1,500.00
Street light electrification/operations/maintenance	43.0	\$125.00	EA	\$5,375.00
Subtotal:				\$66,917.53

Incidental Expenses				
Description	Quantity	Unit Price	Unit	Total
Annual Engineer's Report	1.0	\$5,000.00	EA	\$5,000.00
Administration Fees	1.0	\$15,000.00	EA	\$15,000.00
Contingency Reserve	1.0	\$5,000.00	EA	\$5,000.00
Yearly Filing Fees	1.0	\$750.00	EA	\$750.00
Subtotal:				\$25,750.00

Summary

Totals	
Annual Maintenance Activites	\$66,917.53
Incidental Expenses	\$25,750.00
TOTAL ESTIMATED ANNUAL COST:	\$92,667.53
EST. TOTAL COST PER SF:	\$0.027
EST. ANNUAL COST FOR A TYPICAL 7,500 SF LOT (60'x125'):	\$205.34

6 Funding Opportunities & Strategy

Given the economic conditions in Earlimart and that the cost of the project is expected to be in excess of \$9.7 million, it is clear that the community will need to have some outside assistance in funding a significant portion of this project.

The following section discusses possible sources of funding and their applicability to fund various aspects of this project.

a. Federal

Federal funds are typically made available through bills passed by Congress that are then signed by the President. These funds typically fall under the following broad categories:

i. Transportation (USDOT or FWWA)

Transportation project funding typically originates in the Federal Transportation appropriations bill which is supposed to be adopted every four years; it's reauthorization is currently three years overdue but has been extended through continuing resolutions. The funding for this bill comes from the Highway Trust Fund and related funds. This bill typically contains specific projects of national significance and funding categories under which state and local agencies can apply for federal funding; projects must meet the criteria under these categories. In California, Caltrans is the agency that has primary responsibility for administering these funds. See section 6.i. (State of California, Caltrans) for a description of these programs.

ii. Housing and Urban Development

Funding from the Department of Housing and Urban Development (HUD) is typically intended to correct substandard housing conditions and can include planning activities to resolve housing and infrastructure issues, construction or rehabilitation of dwelling units as well as correcting deficiencies in the infrastructure serving the dwelling units. Funding is allocated to local agencies on the basis of population and can be in the form of grants or loans available through the Community Development Block Grant (CDBG) program, the Home Investment Partnership (known as "HOME") program or similar programs administered through HUD. In this state these funds are primarily administered through the California Housing and Community Development (HCD) department.

iii. US Department of Agriculture (USDA)

This federal agency has funding specifically designed to help rural communities, typically in the form of loans. The USDA has a regional office in Visalia that actively seeks projects that are intended to improve the quality of life in rural communities. The street and drainage improvements in the community of Richgrove were made using USDA funding through a loan to the Tulare County Redevelopment Agency.

iv. US Department of Economic Development

This federal agency has funding available for projects that create jobs, typically in the form of grants for technical assistance studies or for infrastructure projects directly tied to the creation of permanent jobs. This is likely a non-viable funding source for this project in Earlimart as it is not intended to result in the creation of any permanent jobs.

v. Other categorical funding

From time to time, the federal government adopts legislation that provides funding to assist low income individuals with improving their economic conditions. Depending on the timing of the implementation for this project Tulare County will need to consult the Federal Catalog for Domestic Assistance to determine if there are specific categories of funding that might be used to fund this project.

vi. Earmarks

This has traditionally been a vehicle used by Congress for the funding of specific projects of regional concern. By and large this option could be available to deal with especially acute problems in a Congressional District, and if Congressional Representatives were especially persuasive or influential, they could get special legislation passed to fund these projects of local need. In recent years this practice has come under intense scrutiny as it has been used to fund some projects that made little economic sense. The use of earmarks at this point in time is significantly discouraged and, in fact, the Congressman representing this District philosophically opposes the use of this type of federal funding.

b. State of California

Like Federal Funds, state funds are typically made available through programs passed by the State Legislature. Several state agencies also administer federal funding. The following narrative will first include the federal funds administered by the state and then follow up with state funded programs.

i. Caltrans (HES, CMAQ, other)



It is likely that some aspects of this project could be eligible for funding under several categories of federal funding that are administered by Caltrans. If the County can demonstrate that there are significant safety issues in this community for motorist or specifically pedestrians around the school, funding may be applied for through Caltrans to correct these safety hazards. Typical improvements could be in the form of directional signage, pavement markings, hazard warnings, lighting, special lighted crosswalks or signals at high hazard locations with funding through the Hazard Elimination or Safety (HES) program. In Earlimart it is highly likely that this source of funding could be used to install lighted school crosswalk systems near the school and other striping and crosswalk improvements at key intersections (such as Church and Armstrong). Additionally there has been in the past significant funding through the Congestion Management Air Quality (CMAQ) program which can fund projects such as shoulder stabilization (paving and curb installation to capture dust and particulates blown off the roadway surface), signals, round-about intersections and vehicles (street sweepers and “clean air” vehicles) where significant improvement in air quality and particulate matter reduction can be demonstrated. In Earlimart this funding could possibly be used for installing curbs and gutters along the more heavily traveled streets (such as Washington, Church and Armstrong) in the study area if air quality improvement and particulate matter reduction can be demonstrated. Another federal pass-through funding source is the Transportation Enhancement (TE) program. This source of funds is typically used to augment transportation improvements previously made in an area and might include such items as landscaping, special pavement treatments or gateway features. Funding for these sorts of improvements might be possible after the basic improvements are installed but are not likely to be available for constructing the basic improvements. At present there are no other known Caltrans funding sources that would be viable for the Earlimart community.

ii. HCD (CDBG, other)

The California Department of Housing and Community Development (HCD) administers the federal CDBG and HOME programs. Each County and city over 50,000 received a designated annual allotment of CDBG funds that can be used for projects that improve housing conditions and provides infrastructure needed to support the housing such as street and utility improvements, community facilities and special studies necessary to determine or demonstrate a specific need. This is a viable source of funds to offset a significant portion of the capital costs needed to support the improvements to the Earlimart community. Additionally, HOME funds can be applied for use to support programs that encourage home ownership and infrastructure needed to bring the housing up to current standards. It is likely that this will have limited use in the Earlimart community. Additionally

the state has a program known as CalHOME which has the characteristics of the federal CDBG and HOME programs. The CalHOME program may have limited applicability to resolving the improvement needs in the Earlimart community. HCD also administers the Joe Serna Farm Worker Housing Improvement Program and to the extent that farm worker housing is involved there may be limited opportunity for use of this program in the Earlimart community. HCD also has a program known as the Infrastructure Bank (I-Bank) loan program, which is designed to fund large infrastructure projects. While it is typically used to support economic development projects, it is available for use for general infrastructure improvement programs. The application requirements for the use of these funds are rigorous and the interest rates are generally higher than those of other loan programs (such as USDA) and should only be pursued if there are no other alternatives. At present there are no other known HCD programs that might be of use in the Earlimart Community

iii. Proposition 84 (Parks and Water Resources)

These funds are available for projects the provide park and recreation facilities in underserved communities and where the project can also provide improvement to water quality or ground water resources. The Earlimart community is currently seeking funding under this category to improve the School District’s property at the corner of School and Elm Streets in the study area. The project would create a community park with a sports field, playground apparatus and landscaping and would also provide opportunities to detain drainage water from the study area and provide limited ground water recharge opportunities. Without Prop 84 funding, this project is not likely to come to fruition.

iv. California Integrated Waste Management Board

The waste board provides limited funding for projects that have a “recycling” component to them. This project would have the opportunity to recycle the old asphalt pavement and use it for aggregate base on which additional base could be added and new pavement could be placed. Applications for these funds are made to the state by the local waste management authorities. Tulare County is a member of the Consolidated Waste Management Authority of Tulare County and would be encouraged to seek this out as a potential funding source.

v. Other

From time to time the State Legislature adopts legislation that provides funding to assist low-income individuals with improving their economic conditions. Depending on the timing to construct this project, Tulare County will need to consult with their State Assembly or Senate representatives to identify if funds are available for projects like the one

proposed in Earlimart. At present, however, there are no other known sources of funding.

c. Local (County Level)

Locally, there are potential sources and funding opportunities available to the County to assist on this project. The following sources should be pursued.

i. TCAG

TCAG, or the Tulare County Association of Governments, is designated as the regional Metropolitan Planning Organization (MPO) and the A-95 Review Agency for all federal funding programs. They are also the state recognized agency through which all state highway funding is channeled. It will be important for the County to continue working with TCAG in its pursuit of any federal or state funding for Earlimart as all programming for use of federal and state transportation moneys need to be coordinated by TCAG. TCAG also has the ability to distribute the funds collected under the local sales tax override for transportation project funding, known as Measure “R”. Following is a discussion of some of these funding opportunities.

- 1). Measure “R” Bike / Transit – 16% of all Measure “R” funds are set aside for Bike/Transit/Multi-modal projects. It is likely that this funding source could be used for the bike path /wide sidewalk proposed on Church Road, the pedestrian crossings and any transit related improvements in the study area (such as bus shelters/waiting areas).
- 2). Measure “R”, Tier 2 Project Funding – Depending on the timing of this project, elements could be funded under the second tier of improvements proposed under the Measure “R” program of projects, which are anticipated to begin in about 2020. These projects would have to be ranked against all other proposed second tier projects in the County. It is likely that only Church, Armstrong and Washington would be eligible for this funding as they are the only streets in the study area that connect to rural highways outside of the community.
- 3). Other – There are no other readily identifiable funding sources available through TCAG at this time.

ii. Tulare County

- 1). General Fund – As with most public agencies Tulare County uses its General Fund for essential services, such as sheriff’s patrol, corrections, fire protection and essential governance

services. Consequently, no General Fund moneys are likely to be available for projects of this nature.

- 2). Road Fund – Most public agencies use their “roads” funds, typically from state gas tax revenues, for the operation of their highway and road maintenance activities. These funds are limited and their use is typically programmed many years in advance. Projects seeking to use these funds must compete with all other worthy projects throughout the County. The likelihood of Road Fund being available for this project is very remote.
- 3). Measure “R” Roads and Street Allocation to County – 35% of all Measure “R” funds are made available to the County and its cities for local projects and eligible programs. These funds are limited as well but since these funds can be used on any eligible project deemed by the agency to be a priority, it is possible that these funds could be used to offset some of the costs of the Earlimart project.
- 4). Redevelopment Agency Funding – in June 2011 the Legislature passed ABX26 that was intended to terminate Redevelopment Agencies. The Legislature also passed ABX27 that would have given Redevelopment Agencies the ability to “buy” their way back into business. There was legal action by the California Redevelopment Agency and the league of California Cities to stay the implementation of these bills. The matter was eventually referred to the State Supreme Court. In December 2011 the State Supreme Court upheld ABX26, the Legislature’s action to abolish Redevelopment Agencies but determined that ABX27 was unconstitutional in light of their decision on ABX26. As a consequence, Tulare County, like all other Redevelopment Agencies in the State of California, is in the process of winding down all Redevelopment Agency business. Therefore no Redevelopment Agency funding is available for this project. While there is currently some activity in the State Legislature to restore Redevelopment in some form, the opportunity to use Redevelopment funding for this project is now gone..
- 5). CDBG allocation – The County receives CDBG funds on an annual basis. Since Tulare County is an “Entitlement” County it receives a set allocation of funds each year. Some of these funds are regularly allocated for specific programs but the portion of these funds not designated for specific programs

could be used to offset some of the capital costs associated with this project. Depending on the timing of the project, it is also possible that the County could use two years of the undesignated allocation of annual CDBG funds for this project.

- 6). Drainage Fund – The annual amount collected in this fund is minimal. The level of funding does not cover the cost of essential drainage operation in the county. There is little likelihood that these funds could be made available for this project.
- 7). Proposed Development Impact Fees – The County has taken steps to establish development impact fees (DIFs). To date the County has not set the level of the fees or authorized their collection. When the level of the fees have been set and their collection is authorized fees will be collected on every development project that occurs in the County and depending on the timing of this project's implementation, it may be possible for the County to allocate some of these funds if the resulting improvements they are used on are capacity building improvements (extra pavement width or thickness, signals, special lighting, etc.). At this time the use of DIFs on this project while possible is unlikely as improvements in this part of Earlimart have not been identified in the draft DIF "nexus" study.
- 8). Other – The only other existing source of County funds is the "Good Works" fund, largely funded by the Tobacco Tax after all other County needs have been met. The amount of funding typically available is nominal (a few thousand dollars per district). Given the significant funding shortfall the County has had in other areas in recent years, this likely is not a significant source of revenue for this project.

iii. Public Utilities District (Water and Sewer Related)

Funding the construction of the improvements through the Public Utilities District (PUD), other than possible participation in adjustment to existing utility facilities is not likely as the entire study area is already fully served by the Earlimart PUD. Regarding post project maintenance, it should be noted that the law under which the EPUD was formed, it may take on the full responsibility for the ongoing maintenance of the improvements within the study area should it decide to do so. This approach would make much more sense economically and politically than creating a special district to do these functions. It should also be noted that as of the date this report

was prepared, the Current Board of the Earlimart Public Utilities District was not willing to take on this role. If this position does not change there will be a need to create a stand-alone maintenance district for this purpose.

iv. Assessments to Benefited Properties

This is the most likely source of funding for any portion of the project not funded by other sources of funds.

- 1). Improvements (Construction and Installation)
The cost of any portion of the improvements approved to be built that are not offset by other funding (grant or loans paid by other sources) will likely need to be assumed by the property owners of the study area /or established assessment district set up for this purpose. Typically this is done by placing the cost of the improvements, amortized over 20 years, on the property tax bill. Given the estimated cost of the improvements at this time and assuming that the property owners would bear full responsibility for the improvement cost the annual cost is expected to be about \$2,160 for twenty years.

- 2). Operation and Maintenance (Post-Project)
Once the improvements are made within the study area, they will need to be maintained on an ongoing basis. The County of Tulare does not have the means or the capacity to maintain "urban" type improvements and, therefore, requires the creation of assessment districts to provide for the ongoing operational maintenance of these facilities. These activities would include but are not limited to street sweeping, drainage system maintenance, litter/trash patrol, graffiti abatement, landscaping maintenance, street lighting costs, on going street and related facility repair, periodic street maintenance (sealing every 10 years) and annual costs associated with administering the district. Based on the current understanding of what these ongoing costs are, the annual maintenance assessment, which would also appear on the property tax bill, is estimated at about \$344.56 for a 7,500-square-foot parcel. This would be in addition to the 20-year amortized cost of the improvements.

v. Private / Foundation Grants

While there are private grants available for making improvements like those proposed in Earlimart, their availability is "spotty" and it would be necessary for the County to conduct regular searches of grant "bulletin board services" to locate and apply for these grants as they become available.

7 Recommendations

a. Recommended Improvements

The community's response to the Preferred Conceptual Alternative presented at Plan Development Meeting #3 was very positive; however, there was a general concern about the cost of the improvements and the associated long-term maintenance costs as they translate into individual property tax assessments. Because of this in formulating the final recommendation, the 4Creeks team looked for additional ways to cut back on improvements without substantially sacrificing safety and aesthetics. Below is summary of 4Creeks recommended improvements. (See Exhibits 25 - 31)

i. External Streets

In response to concerns over implementation costs it is our recommendation that the Preferred Conceptual Alternative be implemented with the following modifications to the proposed improvements to the External Streets:

- 1). South Church Road: Omit curb gutter and sidewalk on the west side of Church Road except at bulb-out intersections where curb, gutter, sidewalk, and curb ramps should be constructed to meet the new configuration. Limit roadway paving to the area between the east curb line and the western edge of the proposed southbound travel lane, omitting the west side parking lane.
- 2). East Washington Avenue: Coordinate alignment to preserve existing curb and paving on north side of street. Add new curb, gutter, and sidewalk only at bulb-outs.
- 3). East Armstrong Avenue: No significant changes from the Preferred Conceptual Alternative.

ii. Northern Neighborhood:

No significant modifications to the Preferred Conceptual Alternative are proposed. Implement generally as proposed in the Preferred Alternative.

iii. Southern Neighborhood:

No significant modifications to the Preferred Conceptual Alternative are proposed. Implement generally as proposed in the Preferred Alternative.

Exhibit 25

Recommended Improvements

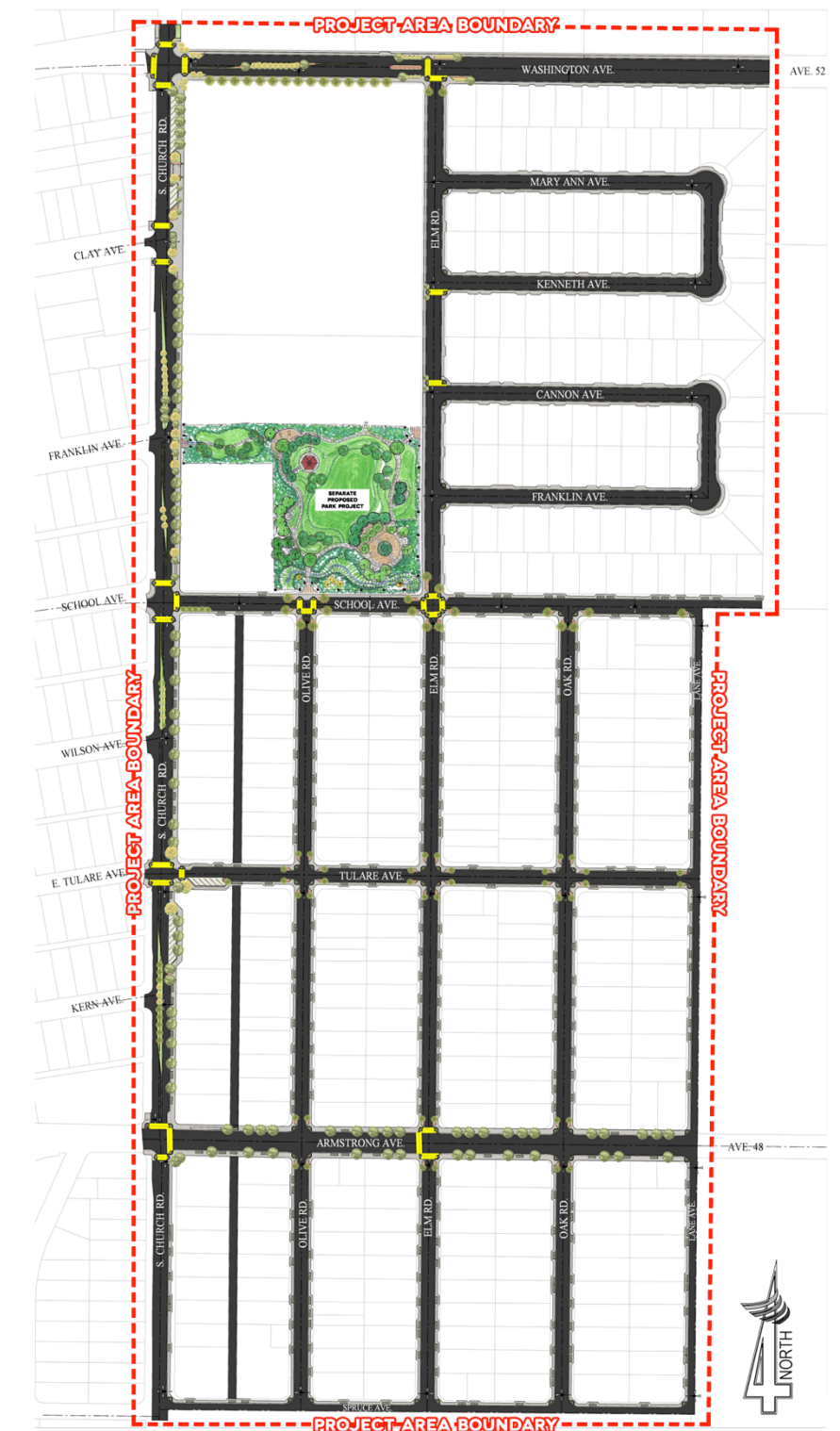




Exhibit 27
**Church Road:
 Northern Section
 With Detail View**

Recommended Improvements



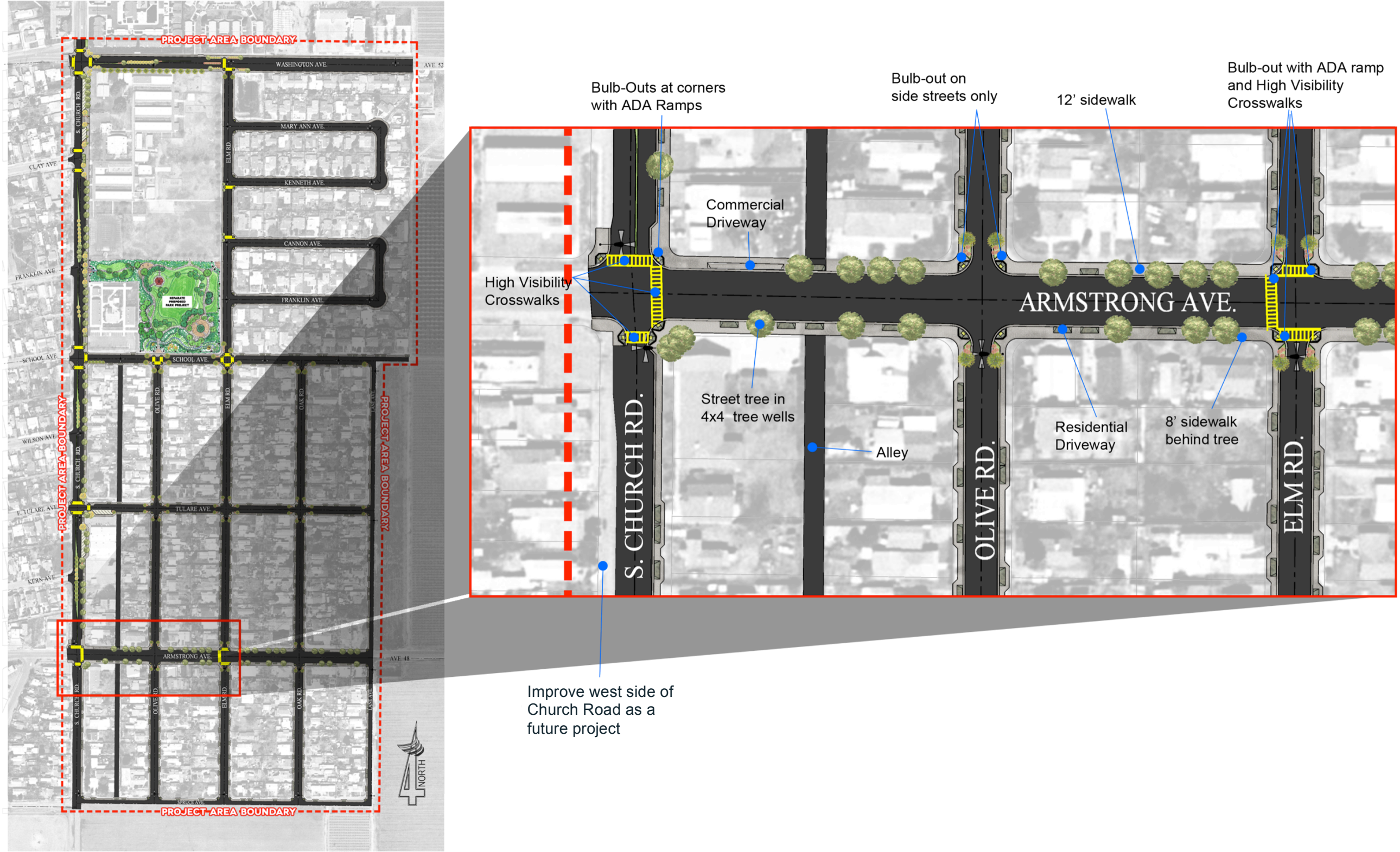
Exhibit 28
**Church Road:
 Southern Section
 With Detail View**

Recommended Improvements



Exhibit 30
**Armstrong
Avenue:
With Detail View**

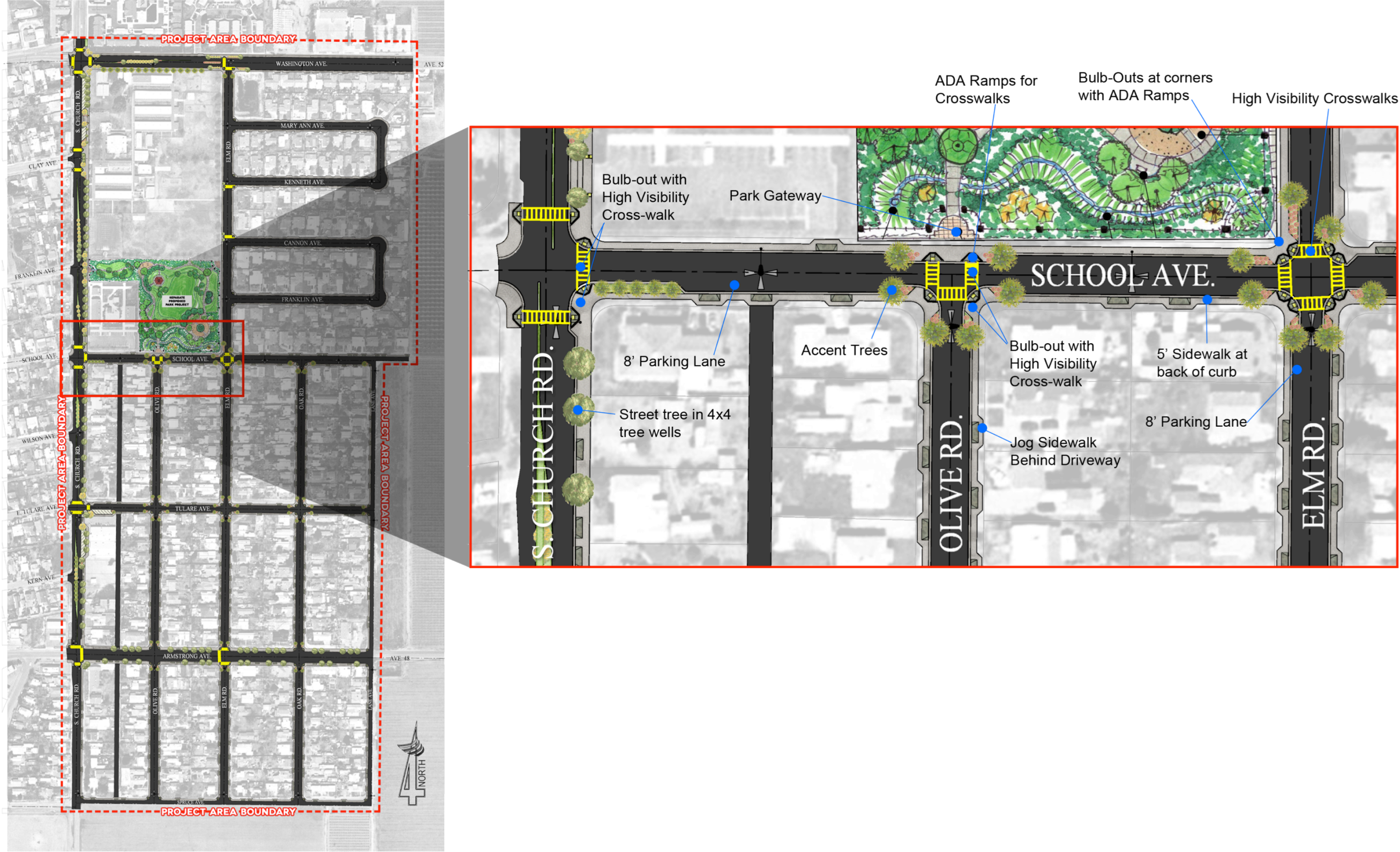
Recommended Improvements



Improve west side of Church Road as a future project

Exhibit 31
**School Avenue:
With Detail View**

Recommended Improvements



iv. Safety Improvements

Given that a substantial portion of the study area currently lacks basic roadway improvements, constructing standard roadway cross sections—curb, gutter, and sidewalks—and installing appropriate standard traffic control signage throughout the area will inherently improve pedestrian and bicycle safety. In addition to these basic improvements the proposed plan incorporates the additional safety features described below. It is highly recommended that these features be implemented as proposed.

- 1). Curb Bulb-outs at Key Intersections: Bulb-outs are recommended at key intersections to reduce pedestrian crossing distance and encourage slower vehicular traffic approaching the intersection.
- 2). Dual use Pedestrian/Bike Paths: 12-foot wide sidewalks are proposed along the East side of Church Road and the north and south sides of Armstrong Avenue to provide separation of pedestrians and bicyclists from motorized vehicular traffic.
- 3). Landscaped Medians: The plan proposes landscaped medians on significant portions of Church Road and on Washington between Church Road and Elm Road. This provides a traffic calming affect for these segments.
- 4). High Visibility Crosswalks: All cross walks indicated on the plan should be delineated with high visibility demarcation with either bold “ladder” or “diagonal” striping.
- 5). In-Roadway Warning Light (IRWL) Crosswalks: IRWL crosswalks have flashing warning lights embedded in the pavement at the edge of the crosswalk. It is recommended that IRWLs be installed at the following 3 locations:
 - Across Washington Avenue on the west side of Elm Road.
 - Across Church Road on the north side of Washington Avenue.
 - Across Church Road on the north side of School Avenue.
- 6). Enhanced Pedestrian Crossing Signage: In conjunction with each IRWL Crossing location, install standard “Pedestrian Crossing” (W11-2) or “School Crossing” (S1-1) signs

enhanced with Rectangular Rapid Flashing Beacons (RRFB) linked to the activation of the IRWL system.



v. Street Lighting Improvements

The project study area lacks adequate nighttime safety lighting. Southern California Edison provides electrical service in this community of Tulare County, but Earlimart has very few existing streetlights. There are a few intersections with “cobra head” lights mounted on wood power poles, but the lights are undersized and provide a minimal amount of light. Nighttime street lighting was identified by the residents in the project study area as being a top priority to assist in creating a safe community. The additional lighting will discourage unacceptable nighttime behavior and provide a major improvement of safety for pedestrians and bicyclists in dark or low-light times of day. The recommended lighting improvements for the project area are:

- 1). Install 43 additional streetlights throughout the project study area. The lights will be installed primarily at intersections and areas of pedestrian, bicycle, and car conflicts. Proposed lights consist of 70-watt High Pressure Sodium Vapor, which will provide sufficient light; while not washing the entire night sky with unnecessary glare and light pollution.
- 2). At specific locations (commercial sites and/or school site), consideration should be given for brighter or different street lighting; such as 100-watt or Metal Halide lamps. These would provide additional lighting in areas of concentrated conflicts and movements.



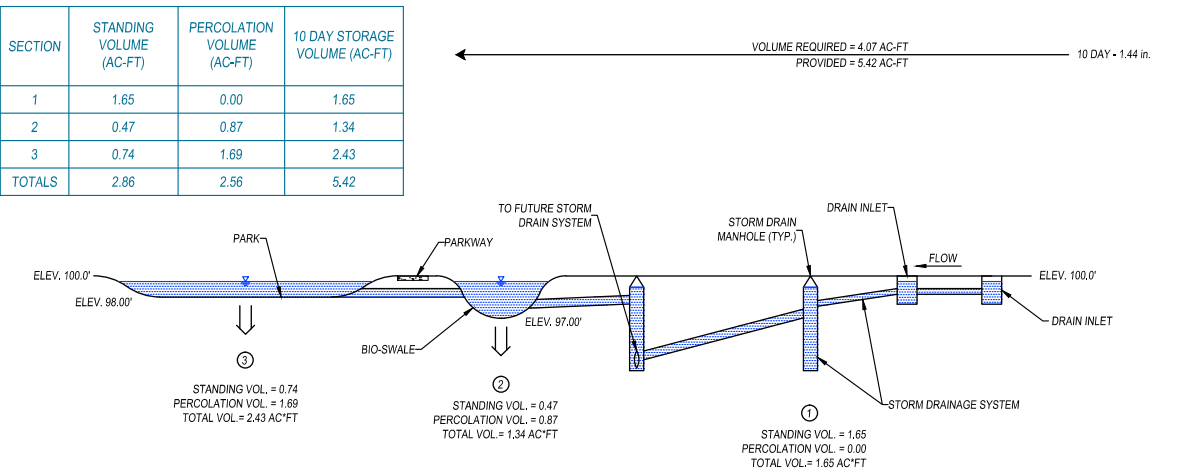
vi. **Drainage Improvements: (See Appendix H for Drainage Study)**

Historically, the community of Earlimart has flooding and drainage issues. This is due to many factors, including the location of Highway 99, upstream tributary drainage areas, and inadequate or non-existent drainage infrastructure. The study area is prone to flooding and typically has inaccessible and damaged areas during the wet periods of the year. The County of Tulare has studied the community of Earlimart, and has prepared a storm-drainage masterplan for the community. Our recommendation is to put a portion of this future masterplan system in with this study, while providing for a future connection to the downstream pipelines. The challenge with putting the upstream portion of the system in is that there is not a terminal location for water to flow to and be stored. Therefore, we are recommending a temporary system that will function as both conveyance and storage; conveyance for the future and storage for the interim. The system can adequately handle a 10-year, 10-day event, utilizing percolation in the bio-swale and park area. A more detailed engineering study report is located in the Appendices of this report. The interim drainage solution is recommended as the following:

- 1). Install storm drainage inlets at most intersections within the project area. These will provide storage volume and conveyance capacity. There are a few existing intersections that have cross gutters, which will be left in place or replaced in the north eastern portions of the study area. A downstream inlet will be installed for conveyance into the system.
- 2). Construct an underground storm drainage pipeline system, which will connect all the inlets to manholes. The manholes will be connected with larger main storm drain trunk lines and the water will be transmitted to a location where the future system would tie-into the current one. Additionally, the system would “back-up” and then transfer storm water into an underground pipeline that will discharge to a bio-swale on the park site.
- 3). The bio-swale will fill with storm water and then discharge water into the lowered grass area of the proposed park. The bio-swale and park area do not provide a large amount of storm drain storage capacity, but over a 10 day period a large amount of water can be percolated out of the system through the bio-swale and park site.

- 4). The on-going maintenance of the storm drainage system has been budgeted for and is planned to be administered by an assessment district or the existing Earlimart Public Utilities District (EPUD). As of the date of this report, EPUD has not committed to accepting responsibility for the on-going maintenance of this area. If this position is unchanged at the time it is necessary to initiate the maintenance activities a special district will need to be created for this purpose.

Exhibit 31

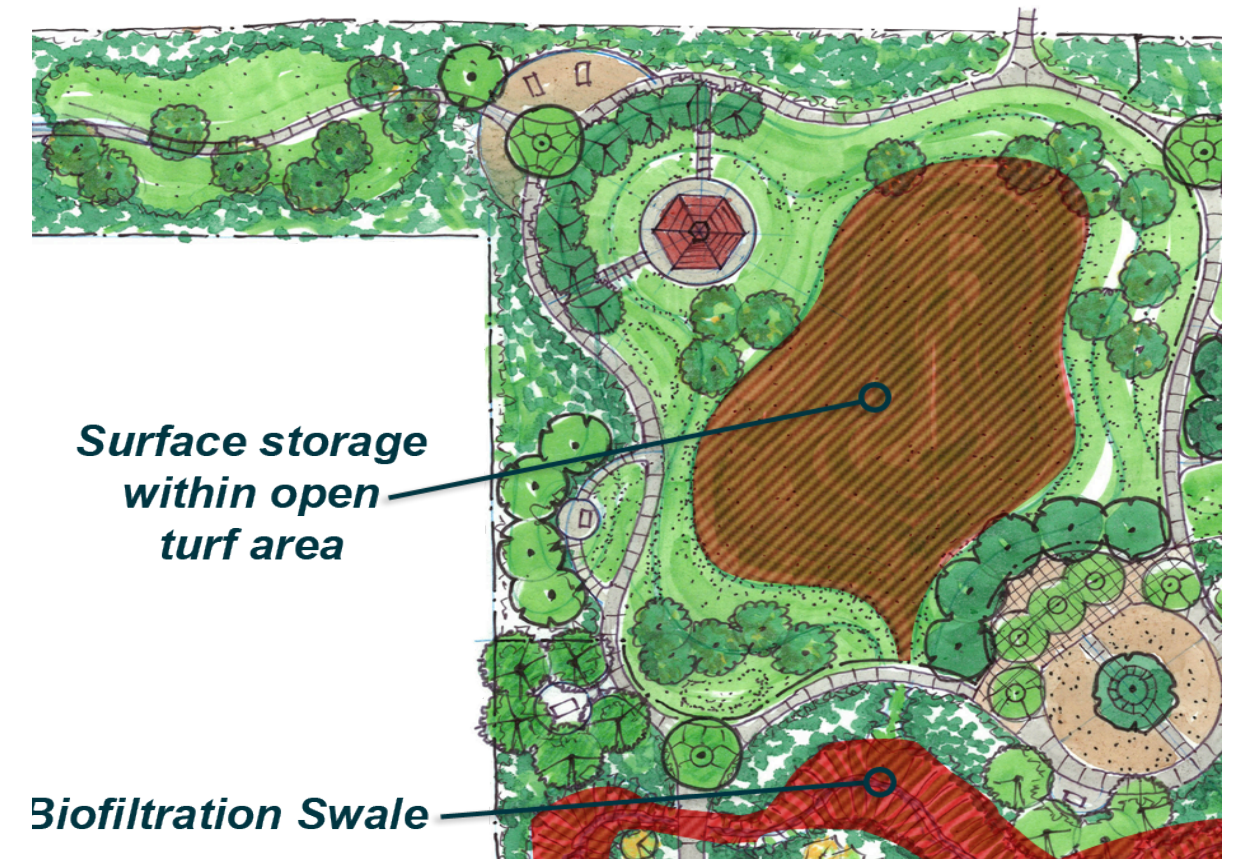


vii. Proposed Park Improvements

As indicated earlier, Tulare County, together with the Earlimart School District has submitted an application for a Proposition 84 grant through the Statewide Park Development and Community Revitalization Program. The proposal to develop the park on the school district property is entirely independent of the Earlimart Safety and Community Study. Costs to develop this park are not included in the costs of the street-related improvements to the study area. The conceptual design developed as an adjunct to this study was used as the basis for the grant application. It is anticipated that the State will make final decisions on grant applications in the spring of 2012. Given this, If the grant is awarded, it is likely that park improvements will be implemented prior to implementation of the adjacent roadway improvements. It is recommended that the design development process for the park be closely coordinated with the proposed roadway and storm water management improvements proposed within the study area. The following park elements are closely tied to the success of roadway and drainage improvements within the study area:

- 1). The biofiltration swale along southern edge.
- 2). Minor surface storage of storm water within the open turf area.
- 3). Street frontage improvements. Note that the Proposition 84 grant will not fund elements outside of the proposed park property boundary. If the park is constructed prior to the roadway improvements additional funding other than Proposition 84 grant funds will be needed to make improvements along the street frontage.

Exhibit 32



viii. Streetscape Improvements

The recommended improvement plan incorporates only modest amounts of street frontage landscaping. The areas that are proposed for landscaping generally are limited to the bulb-out intersection corners; the medians in Church Road and Washington Avenue; and, street trees in tree wells along the Collector Streets. Landscaping with these areas should be accomplished with low water use, low maintenance plants as much as possible. Below is a sample plant palette of acceptable plants. This is not intended to be a comprehensive listing but simply an example of suitable plants. During final design other plants of similar characteristics may be considered and incorporated into the design. See Appendix G for photographs and descriptions of these plants.

1). Trees:

- Trident Maple, *Acer buergerianum*
- Oklahoma Redbud, *Cercis canadensis* ‘Oklahoma’
- Keith Davey Chinese Pistache, *Pistacia chinensis* ‘Keith Davey’
- Forest Green Oak, *Quercus frainetto* ‘Forest Green’
- Village Green Zelkova, *Zelkova serrata* ‘Village Green’

2). Shrubs

- Yarrow, *Achillea millefolium*
- Leather Leaf Sedge, *Carex buchananii*
- Cluster Field Sedge, *Carex praegracilis*
- Munstead Lavender, *Lavendula angustifolia* ‘Munstead’
- Goodwin Creek Gray Lavender, *Lavendula dentata* ‘Goodwin Creek Gray’
- Gulf Stream Heavenly Bamboo, *Nandina domestica* ‘Gulf Stream’
- Harbor Dwarf Heavenly Bamboo, *Nandina domestica* ‘Harbor Dwarf’

- Everett’s Choice California Fuschia, *Epilobium californica* ‘Everett’s Choice’
- Route California Fuschia, *Epilobium californica* ‘Route 66’
- Dwarf Weeping Bottle Brush, *Callistemon viminalis* ‘Little John’
- Margarita BOP Penstemon, *Penstemon* ‘Margarita BOP’

As noted above, this is only a sample list of plants. It is intended only to provide general guidance in plant selection. During final design, the emphasis should be to select plants that have low water requirements, are easily maintained, and are readily available for initial installation as well as potential replacement.



Examples of streetscape “palette” (see Appendix G for more information)

b. Recommended Improvements Financing Plan

It is recommended that the County consider employing the following steps to help finance the improvements identified for this project:

i. CBDG Funds

Consider allocating at least two years of the undesignated CDBG funds to the Earlimart project;

ii. County Measure “R” Funds

- 1). Consider allocating a portion of the County’s Measure “R” local allocation sufficient to cover the cost of the improvements on Church, Washington and Armstrong as they are all extensions of secondary rural highways.
- 2). Consider working with Tulare County Association of Governments (TCAG) to secure Measure “R” Bike / Transit category funding for the extra wide sidewalk on Church Road and some of the special sidewalk treatments in the neighborhood

iii. CMAQ Funds

Work with TCAG to secure Congestion Management Air Quality (CMAQ) funding for the curb and gutter improvements on Church, Washington, and Armstrong. These major streets contribute to air quality issues in the community because of particulate matter generated by vehicle traffic.

iv. Federal Safety Funding

Consider working with TCAG to secure federal safety funding for the lighted school crosswalk systems needed in the project area as well as any special pavement markings or signage in the area.

v. Waste Management Board Recycling Grants

Consider working with the local waste management authority to secure grant funding for efforts to recycle the existing asphalt pavement for use as base material for the new pavements

vi. TEA Grants

Consider working with TCAG to secure Transportation Enhancement funding for the median and landscaping improvements on Church and

Washington post project if there is no other way to fund these improvements.

vii. Monitor Future Federal and State Budgets

- 1). After the next federal budget is adopted and published, consider doing a search of the Federal Catalog of Domestic Assistance for any categorical grants use for this project.
- 2). After the next state budget is adopted consider doing a search of the state budget for any state categorical grants use for this project.

viii. Loans

- 1). Prior to 2011 actions by the Legislature and decisions by the State Supreme Court, Redevelopment Funding would have been an appropriate source of funds to help finance this project; this is now no longer an option. After available grant funding is identified for funding some portion of this project, consider securing the largest USDA or I-Bank loan possible that can be abated with available un allocated Tulare County General Fund available as a result of unwinding Redevelopment Agencies County-wide that might be dedicated to this project..

ix. Assessment District

The balance of the cost of the project would need to be funded through an improvement assessment district.

x. Funding Matrix

The following matrix has been provided as an aid to identify how and when likely funding resources could be applied to this project.

Funding Matrix

Project Overview				Timing			Recommended Funding Sources to Possibly be Utilized in Study Area												
Improvement Strategy	Cost (\$000)	Community Preferred Alternative	Recommended Alternative	Short Range Costs (\$000)	Medium Range Costs (\$000)	Long Range Costs (\$000)	FHWA CMAQ	FHWA TE	FHWA SRS	Caltrans SRS	Measure R Roads	Measure R Bike Alloc.	CIWMB Grants	CDBG Grants	Tree Grants	Misc Minor Grants	Prop 84 Parks	Prop 84 Water	USDA Loan Assessments
Clearing and grubbing	\$162	X	X		\$162		X				X			X					X
Asphalt remove/recycle	\$917	X	X		\$917														
Street excavation	\$113	X	X		\$113		X				X			X					X
Compact subgrade	\$153	X	X		\$153		X				X			X					X
Grade for curbs, gutters	\$36	X	X		\$36		X				X			X					X
Adjust manholes	\$23	X	X		\$23		X				X			X					X
Adjust SS cleanouts	\$113	X	X		\$113		X				X			X					X
Adjust water valves	\$27	X	X		\$27		X				X			X					X
Install irrigation services	\$4	X	X		\$4														
Install irrigation meters	\$4	X	X			\$4		X							X	X			
Relocate water meters	\$194	X	X		\$194		X				X			X					X
Relocate fire hydrants	\$70	X	X		\$70		X				X			X					X
Install drainage lines	\$273	X	X	\$283			X				X			X				X	X
Install Fr drains, dry wells	\$372	X	X	\$372			X				X			X				X	X
Park basin, inst. headwall	\$3	X	X	\$3			X				X			X				X	X
Relocate poles	\$0	X	X	\$0															
Construct curbs, gutters	\$291	X	X		\$291		X				X			X					X
Construct sidewalks/bike	\$1,179	X	X		\$1,179		X				X	X		X					X
Construct median curb	\$49	X	X			\$49		X							X	X			
Construct drive approaches	\$426	X	X		\$426		X				X			X					X
Construct HC ramps	\$346	X	X		\$346		X				X			X					X
Pave streets (main + south)	\$1,491	X	X		\$1,491		X				X		X	X					X
Grind, overlay streets (north)	\$295	X	X		\$295		X				X		X	X					X
Pave alleys	\$83	X	X			\$83													
Install reflectors	\$1	X	X		\$1		X		X	X	X			X					X
Install lighted crosswalks	\$100	X	X			\$100			X	X									
Misc signs, markings, etc.	\$85	X	X		\$85		X		X	X	X			X					X
Install street lights	\$151	X	X	\$151			X				X			X					X
Install landscaping	\$229	X	X			\$229		X							X	X			
Misc.	\$8	X	X		\$8		X				X			X					X
Contingencies	\$731	X	X		\$731		X				X			X					X
PS&E/Env/CM/Fees/Etc.	\$1,097	X	X		\$1,097		X				X			X					X
Financing Costs	\$593	X	X		\$593														X
Project Total (less park)	\$9,619			\$809	\$8,355	\$465													
Park Improvements	\$850	X	X		\$850										X	X	X		

c. Recommended Maintenance and Operations Funding Plan

It is recommended that an assessment district be set up to operate and maintain the improvements made in the project area. This district should include provisions for performing the following maintenance activities:

i. Street Sweeping

Twice-monthly street sweeping in order to comply with current Air Board standards for PM-10 and particulate mitigation using the services of a private street sweeping service contractor or enter into a contract with the nearby Richgrove Public Utilities District for these services.

ii. Storm Drainage System

Storm-drainage maintenance should be contracted out for routine and on-going maintenance as well as periodic vacuum removal of debris from inlets, basins, and sumps.

iii. Landscaping

Landscaping and irrigation maintenance and operation should be contracted out for routine maintenance of trees and vegetation as well as heavy pruning and shaping as needed.

iv. Trash and Graffiti

Periodic trash and graffiti patrol using labor hired through the formation of the district to collect and remove accumulated trash and to remove or cover over graffiti placed on signs or other features in public rights-of-way.

v. Street Lighting

Energy costs for street lighting for new and existing lighting within the study area paid to the local power provider

vi. Periodic street maintenance

Sand sealing streets in the study area every 10 years by the County Road Crew or paving contractor.

vii. Annual district administration costs and filing fees.

Costs to prepare the annual report, costs to administer and manage the functions carried out to maintain the improvements in the district, a contingency reserve for unexpected expenses within the district and the annual filing fee costs paid to the County for the continuation of the district's activities.

Please see Exhibit No. 33 for a recommended breakdown of these costs.

The County should give some consideration to continue this process in other parts of the Earlimart community needing similar improvements. It is hoped that this study will serve as a model that can be applied to the rest of the Earlimart community.

Under the law which the Earlimart Public Utilities District (EPUD) was formed, it is clear that they have the legal authority to assume this work should they so elect to do so. This option was discussed with the EPUD Board at three separate meetings. To date the district has taken no formal action on whether this is an activity they would be willing to undertake. It is the strong recommendation of this report that the EPUD take on these functions rather than creating a special public services/facilities district to maintain the improvements constructed within this study area.

Exhibit 33

Annual Maintenance Activities				
Description	Quantity	Unit Price	Unit	Total
Street Sweeping	7.5	\$75.00	Curb Miles (Bi-weekly)	\$14,625.00
Storm Drain/Inlets Vacuum extraction/cleaning (contract + labor)	54	\$250.00	Inlets	\$13,500.00
Sedimentation Trap Cleaning Park	1.0	\$500.00	Traps	\$500.00
Annual Tree & Shrub Maintenance (contract + labor)	500.0	\$50.00	EA	\$25,000.00
Lighted Crosswalk yearly maintenance (quarterly,annual)	2.0	\$500.00	EA	\$4,000.00
Irrigation (Landscape Areas)	65,000.0	\$0.065	SF	\$4,225.00
Trash Patrol (hours/month)	25.0	\$15.00	Hrs	\$4,500.00
Graffiti Patrol (hours/month)	50.0	\$15.00	Hrs	\$9,000.00
Periodic Pavement Maintenance				
SandSeal (every 10th year)	722,294.0	\$0.12	SF/10Yrs	\$8,667.53
Periodic Patching	175.0	\$15.00	Hrs	\$2,625.00
Periodic storm water and curb and gutter repair	175.0	\$15.00	Hrs	\$2,625.00
Periodic traffic control repair	100.0	\$15.00	Hrs	\$1,500.00
Street light electrification/operations/maintenance	43.0	\$125.00	EA	\$5,375.00
Subtotal:				\$96,142.53

Incidental Expenses				
Description	Quantity	Unit Price	Unit	Total
Annual Engineer's Report	1.0	\$5,000.00	EA	\$5,000.00
Administration Fees	1.0	\$15,000.00	EA	\$15,000.00
Contingency Reserve	1.0	\$5,000.00	EA	\$5,000.00
Yearly Filing Fees	1.0	\$750.00	EA	\$750.00
Subtotal:				\$25,750.00

Summary

Totals	
Annual Maintenance Activities	\$96,142.53
Incidental Expenses	\$25,750.00
TOTAL ESTIMATED ANNUAL COST:	\$121,892.53
EST. TOTAL COST PER SF:	\$0.036
EST. ANNUAL COST FOR A TYPICAL 7,500 SF LOT (60'x125'):	\$270.10

8 Appendices

- A. Grant and Application**
- B. RFP/RFQ**
- C. Meeting Announcements, Agendas,
Summary Notes**
- D. Raw Survey Data**
- E. Board of Supervisors Presentation**
- F. Inventory of Additional Project Resources:
(Video Tapes, Studies, etc.)**
- G. Plant Descriptions**
- H. Storm Drainage**